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EDUCATIONAL METHOD

A Journal of Progressive Public Schools

Volume IX MAY, 1930 Number 8

Editorially Speaking		447
Teaching as an Applied Science	*Frank N. Freeman*	448
Teaching as a Fine Art	*William C. Bagley*	456
Elements Common to All Good Supervision	*Maybell G. Bush*	462
The Organization of Supervision in Large City Systems	*Arthur Dondineau*	467
My Best Teacher	*Orlie M. Clem*	473
Three Types of School Supervision	*Richard D. Allen*	477
History Map Teaching	*J. H. Landman*	482
Spelling—The Individual Method Versus the Class Method of Instruction	*David L. Steinberg*	485
The Clearing House		492
As Reported		498
The Reader's Guide		502

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EDUCATIONAL METHOD

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EDUCATIONAL METHOD

VOLUME IX MAY, 1930 NUMBER 8

EDITORIALLY SPEAKING

THE SCHOOL AND THE PARENTS

The establishment of a department of parent education in an American university is an event to be chronicled as of first rate importance. At last the grease is to be applied where the squeak is. That training parents is far more necessary than training teachers requires no argument; the most superficial observer is well aware of it, and yet we are only just now beginning to do this.

Fortunately we may expect that the universities will do a better job of training parents than they have so far done in training teachers. The opening of departments for the purpose follows upon the development of the nursery school. This, as we have previously remarked, is far superior in its requirements and in its methods to the traditional normal school course. It has been in the hands of competent specialists from the beginning and has enjoyed a high degree of scientific precision in its attack upon the problems of child observation and child care. From this to the education of the children's parents was but a step, an inevitable step, that was soon taken. It requires no prophet to foretell a very rapid multiplication of the efforts already put forth in this field.

For, once the waste and misery that ignorance is now causing becomes apparent, untrained parenthood will be regarded as teaching without training is now. Even the "liberal arts" colleges, in a few instances, though naturally these are in the women's colleges, have introduced genetics, mental measurement of small children, and corresponding work in nutrition. When the academic college goes as far as that to do something useful, the battle is as good as won, for conservatism has been overcome on the last line of entrenchments. Why shouldn't both men and women of marriageable age be taught how to raise a family? Children are certainly more valuable than pigs, and learning how to raise pigs is now a respectable college occupation. Ordinary custom, without benefit of science, is no better in the one case than in the other, and in both the results are often deplorable.

At present the public schools are far from the standard of efficiency to which they might rise if, first, the children who come to them did not have so much to unlearn and, second, the influence of the home and community did not so frequently oppose the efforts that they put forth. It is literally true that many children are obliged to live a dual life, a sort of Dr. Jekyll and Mr. Hyde existence, in order to conform to the standards of the differing institutions to which they belong. Re-

cently a father communicated to the public press his burning indignation occasioned by the prompt punishment of his daughter for openly defying the rules of the school by smoking in a public conveyance. The fact that he had chosen this school himself and, therefore, tacitly agreed to stand by seems not to have influenced him in the least. No wonder mere schoolgirls flaunt established conventions and get completely out of hand. Yet this father would undoubtedly be deeply offended if his daughter disobeyed a request that he had made of her.

The fact is that the home and the school must hang together; otherwise they neutralize each other. It is not enough that the P. T. A. meet occasionally to talk about how milk can be supplied to the younger children in the middle of the forenoon. A vigorous class for parents should be organized in every neighborhood. The principal and his teachers should look upon such work as not only desirable but absolutely necessary. Let the work begin with a study of habits that the school finds it necessary to modify or eradicate. Where did they come from? How does it happen that they persist? The discussion will move inevitably in the direction of native tendencies and their manifestations in early childhood. Before long the interest will be focused, not upon the children in school but upon the little children in the home. If no one in the group has the equipment necessary for dealing adequately with the problems of pre-school education, then let some one be found who has. Once it is clearly seen that these problems take precedence over all others connected with child training, no pains will be spared in learning how to deal with them. Cooperation in meeting the needs of the older ones will follow as a matter of course.

TEACHING AS AN APPLIED SCIENCE[1]

FRANK N. FREEMAN
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The juxtaposition of the first two papers on this program, which are entitled "Teaching as an Applied Science" and "Teaching as an Art," might cause one to think that the organizers of the program intended to stage a debate. It is not my understanding that Professor Bagley and I were intended to debate this question, although it sometimes happens that a discussion turns into a debate without its being so planned. My understanding, in the present instance, is that each of us is to consider primarily his own topic. If, in such consideration, he happens to touch upon the relationship between his topic and the other, this may be considered as merely limiting and defining his own topic. I shall take the liberty of interpreting my topic in this fashion, and shall first attempt to show how teaching is an applied science. I shall then consider more briefly the relationship between teaching as an applied science and teaching as an art, for the purpose of showing more clearly how teaching is an applied science. If this comparison is construed as turning the discussion into a debate, it at least gives Professor Bagley the advantage, since he will have the last

[1] An address delivered before the Department of Supervisors and Directors of Instruction, N. E. A., at Atlantic City, New Jersey, February 26, 1930.

word. I anticipate, however, that the points on which we agree will be found to be much more numerous than the points on which we differ.

In order that this discussion may be as concrete as possible, I shall begin by laying out a number of typical problems in teaching. With these problems before us we may then consider the various methods which the teacher may pursue in the attempt to solve the problems.

Since we are dealing specifically with problems of teaching, we may omit consideration of questions relating to the curriculum. This does not imply that the teacher should have no part in the study of the curriculum, but it is merely a recognition of the fact that the determination of the curriculum is ordinarily treated as a distinct problem, and is one which is not the primary concern of this organization.

I shall consider especially three types of problems. These may be called problems in special methods, problems in general methods, and problems in management and control. By problems in special methods I mean those problems in teaching which are peculiar to particular subjects, including reading, writing, and arithmetic, as well as the more highly specialized subjects, such as music and drawing. Under general methods I include those issues in teaching procedure which are common to a variety of subjects. Under management and control, of course, are included those features of the general management of the individual or the group which affect primarily his general conduct or behavior as contrasted with his progress in the field of learning. Learning and conduct are closely interrelated, but each presents somewhat distinct problems.

Consider first a few problems in the field of special methods. Just now one of the current issues in the teaching of handwriting concerns the relative merit of manuscript writing and of the more familiar cursive writing. This question is on the border line between curriculum and methods, but it is sufficiently within our province to serve as an example. Various considerations are advanced in support of manuscript writing. It is held to be more beautiful than cursive writing and, therefore, more attractive to the child. It is said to be more legible and, therefore, more valuable as a means of communication. It is held to be easier to learn and to facilitate learning to read. Finally, contrary to what we might expect, it is held to be fully as rapid, if not more rapid, than cursive writing. These arguments, of course, do not go unchallenged. The statement that manuscript writing is as rapid as cursive writing is denied. In addition to this it is maintained that the advocates of manuscript writing have overlooked a very important consideration, namely, the adjustment of the style of writing to the character of the movement which is made in producing it. It was the neglect of this aspect of writing, according to the advocates of the cursive style, which countervailed the very convincing arguments brought in support of vertical writing and which caused this style of writing to disappear so suddenly from the schools.

By what means was the earlier issue between vertical writing and slanting writing decided, and what means can we avail ourselves of to decide the present issue between manuscript and cursive writing? The judgment of the educational profession on the first issue is a matter of history. It was based on the experience of many thousands of teachers all over the country. The decision was the outgrowth of a kind of gigantic experiment, the subjects of which were probably the majority of the school children of the generation in which the experiment occurred. The experiment involved the disorganization of the hand-

writing habits of a generation of children. This was a scientific method of a sort, but it was a crude, blundering type of science, tremendously wasteful in its procedure and unfortunate in its immediate effect. Since the time of vertical writing we have developed more refined modes of experimentation. The question of manuscript writing has been and still is being subjected to the scrutiny of these new methods. We may sincerely hope that the issue which is presented in manuscript writing will be decided more quickly and more efficiently than was the issue of vertical writing, through the application of refined experimental technique.

Similar issues may be found in the teaching of the other school subjects. In spite of all the study, scientific and otherwise, which has been given to the other fundamental subjects of reading, arithmetic, and spelling, there are still differences of opinion regarding the best procedure to follow in various details of the teaching of these subjects. To take an example from the field of reading, there is still some question regarding the precise relations between rapid silent reading and more careful reading or study. Rapid silent reading acquired prominence largely as a result of the experimental analysis of reading in the laboratory. There is ground for suspicion that some teachers may have misinterpreted the significance of this emphasis and have neglected other important types of reading. Numerous instances of debatable practices could be found in all the subjects: in the content subjects, such as history, science, geography; in the art subjects, such as drawing, music, and the appreciation of literature. These issues must all be solved by experience. We may solve them through the slow accumulation of the experiences of large numbers of persons which ultimately throw the weight of opinion on one side or the other; or we may go about the investigation of th problems in a systematic fashion, and ma formulate the evidence in such clear-cu analytical fashion that we not only kno what method of procedure is the better but also why it is better. This type of in vestigation furnishes some basis for futur decision and makes for steady, continuou progress instead of the oscillation from on extreme to the other which is so charac teristic of mass opinion.

Besides the determination of the pro cedure which is best suited to children i general, one of our pressing problems is t determine how to deal with those children who deviate sharply from the mass in some special form of learning, the so-called prob lem cases. Such problem cases are illus trated by the children who are afflicted b word blindness in reading, by children wh appear to be left-handed in writing, an by children who appear to be spelling morons. We are too familiar with the con tributions which scientific investigation ha made to the treatment of these problem children to make it necessary to refer mor specifically to this type of contributio which science makes to teaching.

We may now consider a few example from the field of general methods. Th issues in this field are as pressing as in th other and are probably as susceptible o ultimate solution by the scientific method Science has already made large contribu tions to the solution of these problems though the contribution is in some case less direct and the answers to some of th problems are perhaps thus far less con clusive than in the cases which have jus been discussed.

The past generation has, of course, wit nessed enormous development in the fiel of tests, both tests of general intelligence or of special aptitude and tests of achieve ment in the various subjects of instruction The development of these tests and thei

standardization or validation may very properly be called scientific work. Their use in education, therefore, is an example of the application of science to educational problems; and the use of these standard tests in teaching makes of teaching in so far forth, an applied science. While views may differ, and do differ, concerning the extent to which it is useful to employ these standard tests, and concerning the possible limitations or dangers in their use, it can hardly be questioned that standard tests have become an accepted part of our permanent educational equipment.

The very difference of opinion which has just been referred to constitutes a clear opportunity and demand for scientific study. We already have rather conclusive studies dealing with the relative value of the different types of standard tests. We also have studies of the relative reliability of the usual forms of standard tests, on the one hand, and of the older types of examination, on the other hand. We need still other studies which will analyze more accurately than has yet been done, the types of abilities which are measured by, for example, the true-false test and the essay type of examination. Such studies will undoubtedly be made in due time.

A broader question and one which is perhaps still more important than these relates to the function of tests or examinations of whatever sort they may be. General studies of the psychology of learning have thrown some light upon this problem and more specific studies under the actual conditions of teaching might easily be made. Actual scientific investigation is clearly the only satisfactory means to answer this old dispute concerning the value of examinations or of tests. Tradition gives us no answer and speculation gives us no answer worthy of respect in an age in which we rely upon facts for the guidance of our conduct whenever facts may be found.

Another issue in the field of general methods is the long-standing issue between the incidental method and the method of direct practice, sometimes called the drill method. We now commonly call the incidental method the project method. There has been much disputing on this problem and a little experimentation. The experimentation has not thus far been extensive enough to enable us to say how far specific types of skill may be left to incidental learning and how far they must be isolated for special attention and drill. It is safe to say, however, that the question must be answered by scientific study rather than by speculative discussion.

The same may be said concerning the free methods of instruction which characterize the so-called progressive school in education. These methods seem to be based upon the assumption that what a child learns when a task is set before him by the teacher is not true learning. The only learning which may be called true learning, and which will minister to his intellectual development, is that which he undertakes on his own initiative. This is an interesting view and one which is perhaps worthy to be considered as an hypothesis for investigation. It seems quite probable that the type of learning which results when the child sets his own tasks, or when the tasks are set for him by the teacher, might be compared in some form of objective investigation. Such an investigation would imply that we regard teaching as an applied science and the methods to be pursued as susceptible of scientific investigation. Unfortunately most of the discussion of this problem has treated it, not as an hypothesis to be investigated scientifically, but as a political issue to be debated.

Similar issues appear when we examine that aspect of teaching which is ordinarily designated by the term "management" or

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"control." Much progress has been made in methods of management of individuals or of groups through the gradual adoption of a humane attitude and of humane methods of treating human beings in society at large as well as in the school. Such changes may be considered as the result of that type of general, unsystematic, social experimentation on a large scale which was illustrated in the case of handwriting. Such social experimentation has brought about the abandonment of the harsher methods of punishment and has led us to think of discipline not as constituting a distinct set of operations but as simply one aspect of the guidance which the school exercises over the pupil's conduct and learning.

There still remain questions and divergences in point of view, however, on which this social experimentation has not given a conclusive answer. Two courses are open to us in this contingency. The one is to continue the rather clumsy and wasteful method of general social experimentation, the other is to sharpen our issues, draw up hypotheses concerning them, and then seek by careful experimental investigation to determine those methods of procedure which produce the most wholesome development in the life of the child.

The foregoing examples have served to illustrate some of the ways in which science may be applied to teaching, and have pointed out the contrast between the methods of science and other possible methods of determining our procedure. We may now examine more closely the relations between these different methods. It is probably fair to say that there are, broadly speaking, three methods of attacking educational problems: the philosophical, the traditional, and the scientific. The first two may be briefly considered because they may be so employed as to set limits to the application of the scientific method.

The term "philosophy" in relation to education is used in such a variety of senses that it seems desirable to distinguish between them and evaluate them separately. In the first place, it is apparently often used as synonymous with common sense. When we have not adequate data upon which to generalize, we then call upon the general experience of the race and of the individual and arrive at a rule of conduct. Since science has not settled all of our problems, it is obvious that all of us—scientists as well as philosophers—must use common sense in the formulation of such rules. Furthermore, common sense must be employed in the interpretation of the results of such scientific studies as answer part of the problem but not the entire problem. The only difference between the true scientist and unscientific person in this regard is that the scientist regards the verdict of common sense as provisional. He hopes and strives continually to obtain more and more adequate scientific data on which to base his conclusions.

The term "philosophy" has also been used to designate the practical decisions which one makes when confronted with a concrete problem. When one is confronted with such a situation and searches about in his mind for all sorts of data and considerations which may conceivably bear upon the problem, evaluates them, and finally makes his choice of action, he is, according to this view, philosophizing. This makes the practical administrator or executive the philosopher *par excellence*. Instead of dealing chiefly in abstractions and generalities, the philosopher in this view is a practical man of affairs. Since this view would necessitate a revision of all of our dictionaries, which define philosophy in some such terms as "a systematic body of general conceptions," we may omit it from further consideration.

In its more common usage, philosophy

represents speculation. This is clearly the chief sense in which the term is used by Professor Dewey as set forth clearly in his recent book, *The Quest for Certainty*. If I may be regarded as a prejudiced interpreter of Professor Dewey's book, I quote from a review by Professor T. V. Smith.[2]

> And what of philosophy? Perhaps in his conclusion he gets a little more philosophy than his premises warrant. What actually survives his devastating analysis of the intellectual tradition of the West—and I think that Dewey himself would not quarrel with this statement—is art and industry and science. The greatest of these is science; for it embodies the esthetic experience that is the core of art, and it eventuates in the technology which is effective industry. Science is practice promoted by ideas, which is all on earth we know and all we need to know.

That Professor Smith is right is indicated by a quotation from Professor Dewey[3] himself.

> Where will regulation come from if we surrender familiar and traditionally prized values as our directive standards? Very largely from the findings of the natural sciences. For one of the effects of the separation drawn between knowledge and action is to deprive scientific knowledge of its proper service as a guide of conduct—except once more in those technological fields which have been degraded as an inferior rank. Of course, the complexity of the conditions upon which objects of human and liberal value depend is a great obstacle and it would be too optimistic to say that we have as yet enough knowledge of the scientific type to enable us to regulate our judgments of value very extensively. But we have more knowledge than we try to put to use, and until we try more systematically we shall not know what are the important gaps in our sciences judged from the point of view of their moral and humane use.

Finally, philosophy is sometimes interpreted as feeling. To quote from an article by Professor Courtis:[4]

> The validity of a philosophy is not a matter to be determined by reason, but by feeling. Each one of us feels that the philosophy he holds is right. Now the dictates of feeling are absolute and primary. The sources of convictions are hidden deep in the inner nature of man and are beyond control. No matter how reasonable a philosophy may be, one may feel intuitively that it is wrong, and reject it utterly.

A comment on this view is that science may study feelings as well as anything else. The science of esthetics, for example, is a systematic study of the feelings which people have in the presence of works of art.

Tradition represents one of the chief factors in what we call common sense. It is accumulated experience. It is not to be despised as is the fashion with some ultra-radicals, but on the other hand it should not serve as a stumbling block to the establishment of more scientific and rational formulations of the basis of action. I shall have more to say on this in the discussion of the relation between science and art.

The third method and the only one that can furnish the basis for the most economical and rapid progress is science. Examples of the applications of science to education have already been given. Exceptions to the value of science in education, however, rest not so much on the denial of the usefulness of specific appli-

[2] T. V. Smith, "Dewey's The Quest for Certainty." A symposium. *Religious Education*, Volume XXV, Number 1 (January, 1930), pp. 71-73.

[3] John Dewey, *The Quest for Certainty*, p. 273. Minton Balch, 1929.

[4] S. A. Courtis, "Significant Criteria for the Appraisal of the Validity of Contemporary Educational Philosophy." *Educational Method*, November, 1929, pp. 66-72.

cations such as these as upon certain general misconceptions of the nature of science. For example, science is sometimes described as though it consisted merely in the collection of raw data or meaningless facts. It is contrasted with interpretation or evaluation. It is thought that science is confined to the study of highly abstract and impractical problems. All of these conceptions of science are false. The conception of a scientist as merely heaping together in a mass a great number of facts is probably based upon Sir Francis Bacon's description of induction, but the method of science as described by Bacon has never been the method employed by the actual scientist. Bacon was not a scientist himself and scientists have never followed the formula which he laid down. There is no such thing as a mere raw fact. A fact always has some meaning or other. Furthermore, the scientist does not go about collecting facts in a random fashion. He sets up hypotheses, selects facts, makes interpretations, sets up more hypotheses, collects more facts and so on. Interpretation is just as intimate a part of the scientific method as is the collection of facts.

Again, the problems with which the scientist deals are not necessarily abstract or remote from practical applications. In some cases the practical application is not envisaged by the scientist and in other cases it is, but in the long run science is the most practical kind of activity that mankind has learned how to perform.

Part of our difficulty in properly evaluating the relation between science and education is that we do not think of it as an applied science, but think only of the abstract sciences which may make a contribution to it. The abstract sciences, because of their highly analytical character, may not always yield immediate and direct practical applications of the general conclusions which they reach. Such are the sciences of physics, chemistry, physiology, and psychology. The applied sciences, on the other hand, deal directly with practical problems. Such sciences are medicine, engineering, and education. These sciences are synthetic as well as analytic. They do not merely break a situation up into its elements and arrive at abstract generalization, but they take data from many fields and bring them together so as to focus them upon practical problems. They deal with complex situations and use whatever method may be serviceable to indicate the proper method of dealing with these situations. They use the results from any abstract science which may be available and which may contribute toward the solution of their problems. If one thinks of a science as presenting a distinct type of data and involving a distinct type of technique, these applied sciences are not sciences of the same sense as are physics, chemistry, physiology, or psychology; but if we distinguish applied sciences as those sciences which deal with distinct sets of practical problems, then education is an applied science. Teaching is an applied science, then, just so far as scientific research can provide information for its guidance. There can be no question that it has already provided a large amount of such information and that it is continually providing more. Just as fast as science can supply this information, it must supplant other sources of guidance for teachers.

Just a word in closing on the relation between the applied science of education and the art of education. I can think of art as meaning any one of several things, assuming that we have in mind a practical art rather than a fine art. This is not to imply that there may not be an esthetic element in teaching, but merely that we judge it to be primarily a useful as distinguished from an esthetic activity.

If we mean by an art something which is practiced and in which we acquire skill as a result of practice, then it is clear that teaching is an art in this sense. One requires practice to be a first-class teacher. Knowledge of the scientific basis of instruction is not alone sufficient. The same is true of medicine and engineering. One would not willingly entrust the diagnosis of a very difficult case to a student just out of medical school. Neither would one entrust the construction of a large bridge to a student just graduated from an engineering college. This, however, does not mean that practice can be substituted for science. It means only that a certain amount of practice is necessary in order that one may be able skillfully to apply the science which he knows, and the amount of practice necessary for an intelligent teacher with good scientific training is rather small.

Art is sometimes interpreted in the sense of native aptitude for a certain calling. Thus we say an artist is born and not made. Like many proverbs this saying exaggerates the case, especially for the practical arts as distinguished from the fine arts. Some aptitude for teaching is doubtless necessary and the first-rate teacher is one, in large measure, because of his native equipment; but good teachers are to a great extent made, and a large proportion of the making consists in giving them an equipment of applied science.

Again, we may perhaps designate as art that skill which enables the teacher to make successfully those moment by moment adjustments which are required in every complex calling. No formula or set of formulas can ever tell us just what to do in each contingency as it arises. We must assume that the individual is able to exercise tact and judgment in dealing with emergencies. His equipment will be a matter partly of native wit and partly of experience. This does not distinguish an art from a science, but it characterizes all human endeavor.

Obviously, art and science are not necessarily opposed to each other. They are only opposed when tradition is set over against the application of science in either of two ways. First, we may cling to some particular traditional practice because it is traditional in spite of the weight of scientific evidence in favor of the contrary practice. No one would consciously and deliberately do this, but the preference for traditional procedure often clouds one's judgment and prevents one from weighing justly the evidence in the case. In the second place, a general preference for traditional behavior may lead one to discourage scientific study and to rely unduly upon the practice which has been received from the fathers. One may not actually resist scientific evidence when it is thrust upon him, but one may offer passive resistance until one is forcibly shaken out of one's inertia. To think of teaching as an art *as opposed* to teaching as an applied science, will necessarily produce this attitude of mind. To think of art as supplementary to, rather than as a substitute for, applied science is simply to recognize that practice, aptitude, and judgment are necessary in teaching as they are in medicine or engineering. But the fundamental direction of behavior in all these fields lies in science.

TEACHING AS A FINE ART[1]

WILLIAM C. BAGLEY
Professor of Education, Teachers College, Columbia University

There has been an increasing tendency during the past twenty-five years to regard the work of teaching primarily as an applied science. The student of education has noted the remarkable progress of the arts that are based upon exact knowledge —such arts, for example, as engineering and medicine—and quite naturally he has hoped that a similarly substantial basis might be found for teaching. Just as engineering applies the principles of mathematics and physics to the solution of its problems, and just as medicine rests upon the many divisions of biological science, so —he has assumed—teaching can become in effect an applied psychology.

This hope of the student of education has been, in some measure, justified; and as an early proponent of the scientific attitude toward education and its problems, I would not wish to discredit the work that our educational psychologists have done. I am very sure, too, that their contributions in the future will be numerous and substantial. I am not convinced, however, that teaching at its best will ever be an applied science in the strict sense of the term; that is, while it will have many of the characteristics of the applied sciences, its closest and clearest and most helpful analogies are not with the technological arts such as engineering and medicine, but rather with the fine arts such as music, painting, sculpture, literature, and the drama.

The distinction that I have in mind is, I am sure, very real and fundamentally significant, but it is not easy to define. I may illustrate it by contrasting two statements which Cubberley makes in his book, *An Introduction to the Study of Education*. The teaching process, says Cubberley, is "at its basis a science."

> The work of the teacher is essentially that of producing desirable and preventing undesirable changes in the human beings entrusted to her care. . . .
>
> If the teacher is thus to control and mould human nature, the better she knows what this human nature is the more capable she ought, theoretically, to be. To know human nature and the laws of human action . . . calls for sound scientific knowledge. . . .
>
> While biology, psychology, ethics, and government—with special emphasis on psychology —are basic sciences for the school, the practical application of the knowledge these sciences give us as to human beings and their reactions is to a large degree an art. . . . We must be able to apply our science to practical situations in a way that calls for something of the ability of the artist. Science is knowledge; art is the ability to apply it. . . ."

In the paragraph following the statements just quoted, however, Cubberley indicates clearly enough and in a strikingly effective way that the art of the teacher is something very much more than the ability to apply scientific principles to specific teaching problems.

Every strong teacher, then, is an artist, and she plies her art with something of the skill of a harpist. She touches the strings of human thoughts and emotions gently, giving the impression of vast reserves of power; she stimulates and soothes; she inspires and energizes;

[1]An address delivered before the Department of Supervisors and Directors of Instruction, N. E. A., Atlantic City, New Jersey, February 26, 1930.

and at times she smites the strings with all the might of a forceful personality and rises to some great crescendo; and then, when her purpose is accomplished, drops back to those soft and gentle touches which are alluring and suggestive in character. . . . Often beginning without special skill in application, the true teacher builds up her teaching technique as she learns her art, and in time finds that she has entered upon a work of such absorbing interest—a task so full of human comedy and tragedy and hope and affection—that she is led little by little, and almost insensibly, to put her life and soul into it. She teaches because all the better elements of her nature compel her to teach; she becomes the artist teacher.[2]

Now it seems fairly obvious that what Cubberley is describing in the second statement quoted is not the teacher as a technologist, applying deliberately the principles of educational psychology, but rather the teacher as a true artist. Indeed I would venture to say that many teachers who have been quite innocent of psychology would fit Cubberley's picture admirably well, and that other teachers who had studied psychology for a lifetime would not fit it at all.

It is fairly certain, too, that there were very great teachers long before we thought of making teaching an applied science. And here we have another suggestion that the distinction which I am making is a real distinction. Suppose that I were desperately ill and through some miracle could secure as a physician either Hippocrates, the Father of Medicine, or a young doctor just out of the Johns Hopkins School of Medicine. Hippocrates was undoubtedly a great physician in his day; but of course I would take the young man from Hopkins with his equipment of the latest facts and principles and techniques in his field. Now let us assume another possible choice. Let us say that I have been commissioned to employ a teacher for a group of boys and that, through some miracle, I am able to secure either Socrates or the latest Ph.D. from Teachers College, the latter with his knowledge of psychology and of the latest findings of educational science. With all due loyalty to my own institution and its products, I am fairly certain that I would jump at the chance to get Socrates.

I submit, then, that there is a fundamental difference between the teacher as a technologist and the teacher as an artist. It is not that the artist cannot profit by the technology of his art; it is rather that the technology is supplementary rather than central in his equipment, while quite the opposite is true of the physician and the engineer.

To avoid possible confusion may I emphasize the fact that I am speaking of the teacher's technological equipment—that is, his equipment in the so-called science of education and in the techniques of teaching? I am not speaking of the knowledge that he transmits or the skills that he imparts. The artist-teacher is never lacking in respect of these essentials. In fact, as with other artists, his keenest joy is in the mastery of his materials. And perhaps one of the reasons why the pronouncements of psychology have been, in some ways, disappointing sources of teaching-techniques lies in the fact that such techniques must be intimately related to the materials of teaching—in a sense, they must grow out of the materials rather than be imposed upon them from without.

My contention that teaching is essentially a fine art has at this point an important bearing upon the training of teachers. The applied-science conception has impelled us in our professional schools to separate the mastery of subject matter from the mas-

[2] Cubberley, E. P., *An Introduction to the Study of Education*, pp. 230 ff. Quoted by permission of the publishers, Houghton Mifflin Company.

tery of the technology of education. We have done this with the expectation that the teacher would carry over the technological principles from the courses in "education" and apply them to the teaching of his subject. It is an open secret that we have been largely disappointed in this expectation.

My conviction that teaching is essentially a fine art and that, as in all fine arts, materials and techniques must be intimately related, led me thirteen years ago to propose for our normal schools and teachers' colleges a thoroughgoing integration of subject matter and educational theory, and a resolution of the troublesome dualism between the "academic" and the "professional" which has been a most serious handicap to our progress. If our professional schools aim to produce artist-teachers rather than educational technologists, they will lay far more emphasis upon subject matter considered from the teacher's point of view and considerably less emphasis upon detached courses in educational theory. This would be, I am sure, a salutary reform.

What I have just said reminds me of a rather serious danger that we incur as a profession when we overemphasize the scientific phases of our work. It is fitting and proper that we should have the scientist's attitude of open-mindedness, a firm belief in experimentation, and an unquenchable respect for established fact. The danger lies in the implication that we already have an equipment of fact and law that is comparable in exactitude and trustworthiness with that of the biological and the physical sciences. We may borrow from the objective sciences such findings as may help us and such methods as we may adapt to the solution of our own problems, but we must not filch from them the implications of certainty and exactitude that go with such terms as "fact" and "law" and "experiment"; for this tend to give to us and to the public a false sens of security that is likely both to subject u to painful disillusions and to bring ou work into disrepute.

A glance at the situation that exists i psychology as compared with the physica and biological sciences will indicate how slender is the stock of well-established prin ciples related to our field. In astronomy and physics there is a really vast area o fact and law upon which all competent stu dents are agreed. There are ultimate ques tions, of course, that are matters of con troversy, but the controversies do not de generate into personal disputes. In the biological sciences there are many more controversial issues, and yet the area o agreement is relatively wide. No biologis to-day would doubt the validity, for ex ample, of the principal Mendelian laws and even on so significant an hypothesis a the non-transmission of acquired character in the higher vertebrates there is almost a unanimity of professional judgment. But when we approach the camp of the psy chologists the very air is vibrant with the clash of arms and the shoutings of the riva schools. Not only are hypotheses and al leged laws disputed, but large areas o alleged fact set forth by one school are denied factual existence by other schools.

This state of uncertainty and confusion has an unfortunate effect upon the tech nologies that look to psychology for their fundamental principles. The chief of these are education and psychiatry. In the ab sence of laws they must depend largely upon hypotheses and theories, some o which are little better than speculations As long as they are frankly recognized a such, the mischief may be negligible, bu when they are announced as laws and claim the faith and trust that the term law sug gests and encourages, they may easily be come the basis for practices that are litt

better than quackery. Certain schools of psychiatry are apparently not above suspicion in this connection, and it would not be difficult to identify at least a few species of educational quackery.

Even with the best of intentions and the most sincere motives, it is sometimes difficult to escape the results of an unwarranted trust. If there is one hypothesis related to teaching that has seemed to deserve the fullest confidence it is that which I once called the "law of habit-building." It is usually referred to now as the "law of exercise." From what we thought that we knew of the nervous mechanism, and from the apparent facts of experience, it seemed inevitable that the best way to form a habit was to repeat the desired response at frequent intervals, permitting as far as possible no exceptions to occur in the mode of response. All this seems entirely reasonable—and yet Dunlap has recently demonstrated that some habits are best established by actually practicing an erroneous response.

Even more stunning is the blow that has come to physiological psychology from the recent experiments of Lashley. Here the very foundations seem to have been knocked from under the superstructure of neurological interpretation that many of us have been using with the fullest confidence that it was built upon a rock and not upon the sand. A prominent psychologist recently told me that, if Lashley's findings are confirmed, twenty years of neurological interpretation must go by the board.

All this, of course, should not discourage the educational scientist. It is, indeed, part and parcel of the day's work in scientific investigation. But the lesson is none the less significant both to the educational scientist and to the practitioner. The former in his reports must distinguish as meticulously as he can between what is fact and what is in effect merely speculative interpretation; and the latter must accept everything provisionally, applying the scientist's findings in so far as they seem to meet his needs, and sending them back for further investigation when they do not fit. We took the latter course a few years ago with the psychologist's hypothesis of an unmodifiable native intelligence—and the results, I think, were most salutary. Just now the hypothesis of homogeneous grouping seems about to be shipped back to the laboratory for an overhauling. On searching investigation Purdom [3] has found no proof of its alleged virtues; Miller and Otto, in a summary of twenty published studies, conclude that there is "no clear-cut evidence that homogeneous grouping is either advantageous or disadvantageous"; [4] McGaughy tells me that the grouping of pupils on the basis of weight is just about as helpful to the teacher as grouping on the basis of intelligence.

While such facts as I have referred to should prevent us from having an undue confidence in the scientific foundations of education, they should not prevent us from guiding our practice just as far as possible by the findings of objective investigations. While we should, in my judgment, avoid the attitude of cocksureness regarding our scientific hypotheses, we should just as carefully avoid the ostrich-like attitude that refuses to grant any validity to hypotheses that are supported by objective evidence when these hypotheses do not fit our preconceived notions. Even if teaching at its best is much more a fine art than a technological art, the open-minded attitude of the scientist is by no means inconsistent with artistry in teaching.

I should suggest, then, that the scientific

[3] Purdom, T. L., *The Value of Homogeneous Grouping.* Baltimore: Warwick and York, 1929.

[4] Miller, W. S., and Otto, H. J., "Analysis of Experimental Studies in Homogeneous Grouping." *Journal of Educational Research,* February, 1930, p. 101.

attitude may well be regarded as a most desirable part of the equipment of the artist-teacher. It is in no sense inconsistent with other essential items in this equipment. Among the latter I would list: (1) a thoroughgoing mastery of the materials that one teaches; (2) a keen appreciation of the significance of these materials to human life; (3) an ardent desire to have others know and appreciate these materials; (4) a sympathetic understanding of the difficulties which the learner will encounter in mastering the materials; and (5) a command of the techniques by which these difficulties may best be overcome.

Regarding the last-named desideratum, it is reasonable to believe that many if not most of these techniques will be gained in part from the observation of master-teachers and in part from the discipline of experience. The technology of education will, I think, help the teacher somewhat here, although it will not alone solve the problem. An acquaintance with the general patterns or methods of teaching should be helpful, but this help is supplementary rather than central. I am inclined to think that the technology of education will be of largest service in what may be called the extra-teaching activities, as caring for the health of the learners and measuring their progress, and such duties as may devolve upon the teacher in determining what subject matter to teach.

Far more significant to the artist-teacher than the techniques, however, are the qualities of apreciation and sympathy and devotion which come primarily neither from his instruction in the materials and technologies of his art nor from his specific training during the apprenticeship stage of his career, but rather from the forces, no less real but far more subtle, that we refer to as insights and intuitions and inspirations. Like all true artists, the artist-teacher is a sensitive soul—sensitive to the finer and more humanly significant elements in the subject matter that he teaches, sensitive as well to the finer and nobler elements in those who come to him for instruction and inspiration and guidance. All of the fundamental analogies here hark back to the fine arts and to the attitudes and responses of the creative artists in these fields. In a beautiful tribute to one of his teachers—George E. Woodberry—a recent writer [5] in *The Nation* sums up the essential factors:

> Mr. Woodberry's magic was *sui generis*. He was a great teacher . . . because he was an authentic poet. . . . [But] had Mr. Woodberry never written a line of verse, he would be proved poet by his teaching. The proof lay not only in his tenderness and his rare understanding of the raw boys before him, but in the way in which he poured out himself and the best that was in him without stint or limit. Within his scope Mr. Woodberry had much to give, and only a poet could have given with such lavishness.

It is the germinal roots of these qualities that we who train teachers must try to discover and to develop in our students. Our technologies and our experiments, I am sure, will help us here; but we must not be led astray by a premature solution; and, what is even more important, we must not infer that, because our scientific methods may not as yet suggest a solution, we are justified in neglecting the problem or in assuming that the problem does not exist.

It has come to me with increasing force in the past few months that we ourselves have not been fully cognizant of the magnitude and intricacy of the task that we have assumed. We envy the physical sciences and the technologies based upon them; we envy almost as much the biological sciences and their technologies. What we have not sufficiently recognized

[5] Kellock, H., "Woodberry—A Great Teacher." *The Nation*, January 29, 1930.

is that their data are vastly simpler than ours, and that advancement with them is far easier than with us. It was with no small measure of consolation and encouragement that I read the following pronouncement by Henry Fairfield Osborn, one of the most distinguished of American scientists in the biological field:

> Marvelous as are [the] recent discoveries in astronomy, they are becoming comprehensible because of the uniformity of the laws and principles revealed to man through centuries of research. In brief, physics, astronomy, and chemistry are alike coming within the field of exact science capable of measurement, calculation, prediction, and prophecy.
>
> What a contrast is presented in the biological sciences, ancient and modern! With a wide circle of astronomic friends and with the most intense admiration for the achievements of astronomy and pure mathematics, I yet believe that their problems are not nearly so difficult or so baffling as our problem. In anatomy, in physiology, in pathology, in heredity we have not yet reached even the threshold of exactitude. With increasing energy, refinement and ingenuity, we know all the organs revealed in comparative and human anatomy, in both their grosser and their finer structure. We know also the history of the rise of many of these organs in the course of past time and what their functions and relations are, but there is always the Great Beyond of the unknown, and perhaps unknowable, which is summed up in the word life.
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> Of all incomprehensible things in the universe Man stands in the front rank, and of all incomprehensible things in Man the supreme difficulty centers in human intelligence, human memory, human aspirations, human powers of discovery, research and conquest of obstacles.[6]

It is literally true that we have today more definite and dependable knowledge about stars that are thousands of light years distant, and about atoms that no human eye can ever see, than we have about the human mind that has made these discoveries and given us this knowledge.

What Dr. Osborn says, in effect, is that the task of the physical scientist is a simpler task than that of the biologist and that the task of the biologist, difficult as it is, is a simpler task than that of the psychologist. And the same comparisons hold, I maintain, with reference to the technologies based upon these three groups of sciences. In so far as dependable guidance from fundamental laws and principles is available, the task of the engineer is a simpler task than that of the physician, and the task of the physician, difficult as it is, is a simpler task than that of the teacher.

But fortunately, under the conception of teaching as a fine art, we can still carry on, encouraging in every possible way the objective study of our problems, grateful for every positive gain that our technology can record, and yet firm in the faith that a mastery of our materials combined with sympathy and insight and a sincere devotion both to our ideals and to the best interests of those who come to us for instruction and guidance may carry us forward even though we are dealing with the most intricate of human problems and even though the human mind, which it is our particular task to feed and form, is still the "most incomprehensible thing in the universe."

[6] Henry Fairfield Osborn's Foreword to *The Brain from Ape to Man*, by Frederick Tilney. Paul B. Hoebner, Inc., New York, 1928. Quoted by permission of the publishers.

ELEMENTS COMMON TO ALL GOOD SUPERVISION[1]

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Supervision is now generally understood to comprise those agencies and activities which affect instruction directly. This definition does not exclude the administrative elements involved in supervision, but it does help us to distinguish between supervision and administration. What, then, are some of the essential elements common to all good supervision?

1. *Democracy.* Supervision should be based upon a coöperatively determined program, and must be guided directly by plans which those to be supervised have had an active part in formulating. Both the ultimate and immediate objectives in the program should be thoroughly understood by all concerned.

One interesting example of such a program is that in effect in Racine County, Wisconsin. Pupils, patrons, teachers, principals, superintendents, school officers, and directors of teacher training were given opportunity to offer definite suggestions regarding conditions they would like to have improved. After the data were received, classified, and arranged in practical working sequences, each group participating accepted responsibility for the solution of one or more problems which they might appropriately work upon. This was the first year's plan in the continuing program. This past year additional problems were introduced, and goals are being attained in a most gratifying way. This has proved to be literally a county's supervisory program which will continue in effect regardless of changes here and there in the personnel of the leadership.

This same principle of coöperation in plan and program formulation is applied in slightly different ways in many of our widely known school systems, as, for example, in Denver, Detroit, Los Angeles, Oakland, Minneapolis, Springfield, Massachusetts, or Hamtramck, Michigan.

2. *Coherence.* Supervision must assume responsibility for the coördination, integration, and capitalization of all of the resources within the various parts of a school system for such stimulating activities leading to teacher growth as special case studies, experimental teaching, curriculum construction, certain types of research, or group leadership.

Many times a seemingly effective program or even a plan for a special phase of supervision may, by its very nature, fail to prevent duplication of effort. It is very disheartening to find, after one has struggled with a difficult problem, that perhaps it might have been solved vicariously, and effort thus have been released for other and more far-reaching undertakings.

The supervisory technique employed to effect a conservation of effort and a unification of mutually understood purposes must of necessity vary with the situations, but undoubtedly the essential element is to make the accomplishments in each department of the school system available in concise, attractive form for all of the teaching and supervisory staff.

[1] An address delivered before the Department of Supervisors and Directors of Instruction at Atlantic City, New Jersey, February 26, 1930.

Frank S. Libby, of Franklin, New Hampshire, said in part at the meeting of the Department of Superintendence in Boston, "Achievement is always an incentive to greater achievement. The conviction that real merit will be recognized stimulates to activities that will function to higher and better things—a spiritual development. A teacher improved by developing the real teacher spirit has become an agent of service immeasurable."

3. *Resourcefulness.* Supervision must secure to teachers, at the time they require it, adequate assistance in meeting situations beyond the levels of accomplishment for which their training, experience, or native ability have equipped them.

Individual differences exist among teachers just as they do among pupils, and supervision must be flexible enough to meet those conditions, in the same degree, at least, that we expect teachers to meet them with their pupils.

The beginning teacher should receive special help from supervisors. Doubtless upon the skill of their first supervisors depends, to a large degree, the future success of many teachers. Emergency cases arise in which teachers may do the wrong thing, or misunderstandings may occur which cause sorrow, and thus diminish the teachers' desirable results. Prompt, decisive action on the part of the supervisor in direct charge is imperative. Such action is an element in skillful leadership when assistance is given in the spirit of true sympathetic helpfulness, and when it is administered in such a way that it does not lower the teacher's professional status either with the pupils or with her coworkers.

4. *Validity.* Supervision should be the functioning of a thorough knowledge of the most scientific theory available, including the application of this theory in the organization of, and in the technique of, supervisory activities. In addition, supervision should be conditioned by that attitude of open-mindedness and tolerance which grows out of breadth and clarity of vision acquired through training and experience outside of the vocational demands of the work.

An outstanding weakness on the part of too many supervisors, especially in the elementary schools, is lack of general scholarship—and consequently a deficiency in one of the essential qualities of leadership for teachers. This is true because teachers are being urged today, as never before, to enrich their fund of actual subject matter and to spend less time in the professional courses offered in summer sessions.

It is true that the demand for a professional and scientific background for supervision is increasing rapidly, but coupled with this is the almost universal requirement that this special training be in addition to, at least, a four year general college course. It is only natural that, as the qualifications of teachers are increased, qualifications for supervisors will also be increased. This is quite fair, for, as Cornelia Adair tells us, "Inspiration is a part of supervision, and in their supervisors, teachers hope to see the qualities they, themselves, should possess, and more."

5. *Reliability.* Supervision requires the coöperative services of general supervisors, special supervisors, and often of subject matter experts, since thorough knowledge of both the subject matter to be taught and the special techniques for presenting it are essential for carrying on many of the technical supervisory activities.

Dr. Bobbitt calls attention to this necessity in Chapter XVIII of the First Yearbook of the National Conference on Educational Method, in which he discusses "Educational Science and Supervision." You will remember that he says, referring to scientific supervision, "Its function is

the distribution and maintenance of professional illumination, with the faith that those who have the light can see where and how to go; and that they will use this light for their guidance." He adds, " 'The best educational vision that the race has attained to' is not really the possession of any *one* of the educational specialists of any situation or administrative level. It is not possible for anyone to have the whole of the vision. It is distributed among them. Each competent specialist has his portion. The problem of direction is the problem of making the composite vision of all the one which is directing each—so far as that is possible."

Controversies no doubt will take place when several persons try to reach a group decision. Opinions may be offered in place of evidence, but through the refining influence of conferences between leaders whose training and experience have been common, perhaps, only in a small measure, will grow the very essence of the science of supervision, which is coöperative constructive service directed toward a definite goal.

Decisions reached and procedures resulting from group judgments are much more satisfying to teachers who may be directly affected. Above all else, supervision is too serious an enterprise to be based upon less than the most complete knowledge attainable at the time.

6. *Unity.* Supervision is the agency through which educational philosophy, as conceived by the superintendent and his staff, functions in classroom activities, in subject matter offered, and in outcomes realized.

Granting that there is lack of agreement among educators regarding some important phases of educational philosophy, yet there is an ever-increasing core of common content which all accept in theory at least. The almost universal acceptance today of the seven cardinal principles of education, and the tendency of outstanding leaders in the field of educational philosophy to meet together to discover what they have in common, rather than upon what points they differ, indicate the tendency toward increased unification of educational philosophy.

Individual school systems, nevertheless, will continue to differ in many phases of educational practice, and also in minor phases of educational theory, and doubtless this is as it should be. However, within any one school system, the superintendent and his staff of supervisors must sincerely and wholeheartedly agree upon a common working philosophy of education for that school system. That philosophy, which may well be expressed in writing, is an absolute prerequisite for all other activities. The supervisors, then, become the interpretating messengers of educational philosophy from the superintendent to the teachers.

The teacher's preparation in many instances has been largely in the specific field in which she is to serve. It has been made up of a limited amount of subject matter, and the particular methods courses designated for the grade or subjects he or she is preparing to teach. Little time has been available for cultural courses or training in general educational philosophy. Yet, if a teacher is to participate in the type of supervisory program advocated today, he or she needs must have a knowledge of the broad aims of democratic education, and the theory of practice advocated for attaining those aims.

It is the privilege of the supervisor to lead the teacher to an understanding of educational philosophy through the teacher's own teaching problems. The skillful supervisor analyzes a specific teaching situation with the teacher, and gradually helps the teacher to see and appreciate the great continuing truths that lie back of many of

he simplest teaching acts. When this contact has been made in the mind of the teacher, her most commonplace duties take on new meanings and values. Soon the teacher herself has a philosophy of education. She has really entered the teaching profession. She sees the difference between principle and device, between unity of purpose and uniformity of practice, and what appeared before as contradiction now is seen to be only variety.

The teacher who is fortunate in having the help of an intelligent supervisor need have little uneasiness regarding the adjustments necessary in changing from one school system to another, for supervisors understand the teachers' capacities for assimilating educational philosophy, and they also understand the underlying philosophical principles upon which their particular school system rests. To help each teacher to work intelligently upon the problems to be solved, and to help her at the same time to see that the justification for all effort lies in a few commonly accepted desirable goals, toward the realization of which all energy is being directed, changes the new teacher from an isolated worker into a corporate thinker in the school system in which she finds herself.

7. *Significance.* Supervision must justify its own existence in terms both of objective data and of subjective appraisal. Dr. W. H. Burton says, "Supervision no longer has to argue to exist." Some scientists also believe that anything that exists, exists in some degree and can be measured. Besides, it is very gratifying to have objective evidence of service rendered. There are many devices now available and in use for the objective measurement of various aspects of the classroom technique of teachers; but a far smaller number of instruments for measuring the efficiency of supervision have been devised or are in actual use at the present time.

Dr. Leila M. Crabbs carried on a most suggestive study entitled "Measuring Efficiency in Supervision and Teaching," with which all are doubtless familiar.

Dr. Burton has given us a very helpful basis for study of this problem in his comprehensive article in the First Yearbook of the National Conference on Educational Method, entitled, "Evaluation of Supervision."

The American Educational Research Association devoted its meeting on February 26, 1929, to the "Appraisal of Supervision." The contributions presented there are printed in *Educational Administration and Supervision* for April, 1929. The authors are Dr. S. A. Courtis, Bessie Lee Gambrill, M. R. Keyworth, and R. D. Lindquist. I commend these articles to your attention.

It is admitted today that many of the desirable outcomes of teaching can be measured by the objective means now existing. The same is true of several of the direct results of supervision. In spite of the fact that a few individuals may have in some cases been misjudged because of the present inadequacy of the tools of objective measurement, their greatly increased use and the rapid gain in the wisdom displayed in their interpretation more than justifies insistence upon objective measurement as an element in determining the real significance of supervision. Here lies a fruitful field for further study and creative work in which not only research groups but supervisors themselves should participate.

8. *Guidance.* Supervision must contribute to the civic, social, and spiritual growth of the teaching staff.

From widely varying sources have been gleaned the following fragmentary statements, which indicate the feeling that is constantly on the increase relative to those functions of supervision which we might term extra-curricular:

"To make teachers citizens and not just parasites on society."

"To promote health among teachers."

"To promote the development of, an understanding of, and an adequate evaluation of the self."

"To make teachers feel the dignity of their profession and to be interested in its leaders."

"To help the teacher to make such use of leisure time that it enriches life and enhances happiness."

Hitherto, because so little was known regarding the effects of emotional conditions and social attitudes upon the work of a teacher, the services of the supervisor were considered unnecessary in the respects just mentioned. Today we know that a teacher's success or failure may be due quite as much to emotional state and to attitude toward others as to her intellectual preparation for the task. Physical buoyancy, self-respect, contentment, and social understanding are absolute essentials of happiness. Surely supervision could perform no greater service for the teacher as an individual than to increase her happiness.

Teachers often live in communities for several years without becoming in any way a part of the local civic life. Here is an opportunity for the supervisor to lend a hand in helping such a teacher to see and meet her community responsibilities.

If supervision does not add to the spiritual development of those who are supervised, it is a serious arraignment of the means of supervision employed or of the types of individuals who are extending the leadership. Just as the school aims to develop desirable interests, attitudes, and ideals in the pupils, so should supervision reveal to the teacher, through the standards maintained, the evidence of sincerity of purpose, the constant practice of fairness and justice, the generous application of the "quality of mercy," and willingness at all times to consider self last, those inherent qualities which make the difference between stimulation and inspiration.

In conclusion. The ideas which have been here presented may also be thought of in terms of the philosophy underlying the project method. Take as an illustration the skillful kindergarten teacher. She secures whole-hearted purposeful activity on the part of her little people by supplying the right sort of stimulating environment, and by guiding but not dominating the resulting activities. She is the never failing resource to whom the children come freely with their problems. She gives them just enough assistance to enable them to continue their own problem-solving.

When supervisors can serve teachers as constructively as the skillful kindergartner serves her young pupils, we are nearing the goal of democracy in supervision. Then may we hope to see groups of teachers working together or individually through their own initiative upon problems, investigations, or case studies growing out of their own teaching situations. The schools need do little more for their children than to give them the opportunity of coming in contact with teachers who are striving continuously to improve their own teaching art, in order that the children entrusted to their care may develop to their fullest capacity.

Is it too much to say that the principles underlying the project method, actually applied in the supervision of instruction, would change the methods employed, and the outcomes realized, in the same degree that this method intelligently carried into effect changes the activities and aims of the formal school, and produces in its stead an active group of interested, purposeful workers motivated by their own interests and eager for the teacher's guidance?

THE ORGANIZATION OF SUPERVISION IN LARGE CITY SYSTEMS[1]

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The major purpose of supervision in any school system, large or small, is the improvement of instruction. Supervision justifies itself to the degree in which it fulfills this aim. To achieve its objective, a supervisory program should seek, first, to discover the educational needs and capacities of the children; secondly, it should prepare, select, and adapt instructional material to meet these needs; and finally, it must devise and bring into general use such educational procedures as will most effectively and economically accomplish the goals set up.

Whether the policy carried on be one of general or of specialized supervision, or a combination of the two, the primary concern of supervision remains the same: to help the classroom teacher adjust her teaching to the individual needs, interests, and capacities of her pupils.

Teaching has become highly specialized; the principle of the division of labor has been recognized in education as in other professions and skilled trades. A teacher who is engaged all day with a group of forty or more children finds it necessary to confine her efforts and energy closely to the art and practice of specific teaching. Daily she meets problems requiring study and research which she is often unable to devote to them because of the limitations of time, training, or human energy. She must get assistance from every possible source.

The thoughtful, alert teacher always welcomes an informal diagnostic test, a suggestive teaching plan, a specially adapted device, or a case study of typical problem children properly analyzed and accompanied by intelligent diagnoses and suggestive remedial measures.

Following this statement of the aims and purposes of supervision, let us consider rather briefly the necessary qualifications of those who are to assume the leadership in guiding instructional policies. Leadership of the type I mean must be vested in persons of superior mental attainments, broad teaching experiences, keen administrative insight, and wide human interests. Such individuals should possess outstanding personal and social traits, broad scholarship, and highly trained technical equipment; in a word, they must be recognized as professional leaders by virtue of their peculiar fitness for the work.

A short summary of the necessary important social and personal traits may be in order. Primarily the supervisor must derive genuine satisfaction from working with children, teachers, and principals. He must possess poise, health, and optimism. He must possess the natural courtesy, tact, and diplomacy which are essential to harmonious and fruitful relationships. Above all, he should be gifted with that fertility of imagination which, for lack of a better term, we call creative ability.

What is implied by professional leadership? The individual who possesses this

[1] An address delivered before the Department of Supervisors and Directors of Instruction at Atlantic City, New Jersey, February 26, 1930.

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quality is acquainted with progressive theory and practice. He is scholarly in the true sense of the word, and has a comprehensive knowledge and appreciation of his particular field. He studies and carries on research continuously, to discover new and better applications of knowledges and skills, new methods and teaching devices, all of which he shares gladly with his professional associates. His colleagues and the teachers in the field recognize him as a leader in the mastery of his subject and its administration, and they freely acknowledge his initiative and usefulness. Furthermore, the right kind of professional leader has a well organized program of self-improvement which radiates to all with whom he associates.

The successful supervisor accepts responsibility, has executive ability, knows how to delegate suitable activities to assistants and teachers, and works coöperatively with children, teachers, principals, and colleagues. He is tolerant and broad-minded; his decisions, free from bias, are made in the interests of the whole group. He is resourceful in adapting himself to situations as they develop, and is able to create a harmonious working atmosphere about him.

At this point the natural question is, "How many people are there, even in a large city, who qualify in a sufficient degree for such responsibilities?"

My reply is, necessarily, "Very few." That is why there should be few supervisors in any organization. The more able the supervisor may be, the fewer of his kind we need. On the other hand, if he is not so able, why multiply mediocrity?

Our special supervisory organization in Detroit, which is quite typical of many American cities, consists of some forty people who are responsible for every phase of instruction from the kindergarten through the high school. The administrative set-up provides for a general director or supervisor over each of the six major divisions: exact science (including mathematics), fine arts, language education (including all the language arts), health education, vocational education, and social science. In addition to supervisors who are responsible for the usual subjects—arithmetic, English, reading, handwriting, vocational work, health education, music, and art—we have others who give their entire time to the improvement of library instruction, foreign languages, safety, and visual education. The supervisor of each subject covers the work through the elementary, intermediate, and senior high schools if that particular subject is continuous through all the school units.

Two major activities in which supervisors are engaged are curriculum building and the interpretation of courses of study. Interpretation of courses of study involves training of principals and teachers in the field, college classes for regularly employed teachers, and demonstration teaching.

Under curriculum building we may classify research studies in methods, subject content, grade placement, characteristics of children, and other projects like the preparation of instructional materials, tests, and bulletins dealing with research findings in Detroit and elsewhere.

In most cities the special supervisor is the leader in building up a course of study in his particular subject which should and does contribute to the development of the entire curriculum. Here is evidenced the necessity for thorough training and wide experience, enriched by outstanding personal qualities, if the work is to be of real value, for curriculum building must be a coöperative procedure—another experiment in democracy.

Those who develop curriculums need to be social-minded; they must be familiar

with social backgrounds and institutions—yesterday's, today's, and a possible tomorrow's. A knowledge of human psychology is essential to their work. They must recognize and respect individual differences, in teachers as well as in pupils, and they must be able to select and suggest situations and activities through which each child can develop to the limit of his capacity. They should know teachers' problems and should be able to assist in a practical solution of them. Through constant study, research, and practice, supervisors should seek to determine how instruction in their particular fields may contribute to the attainment of the ultimate goals in education. What should be taught? What methods are to be used? Where should these units of work appear in the child's school life? To what extent do the results correlate with the objectives set up? These are among the questions whose solution is the problem of the supervisor.

Through innumerable contacts with large numbers of teachers working under all sorts of conditions, supervisors can pool the contributions of the more expert and gifted teachers as a guide and stimulation to those who are inexperienced or less able. This, in itself, is a service great in potentialities.

There are four ways by which supervision may be led to function efficiently. The first is a coördinated, workable scheme of organization. In any system where teaching service is continuous and relatively permanent, a consciously directed effort must be put forth to stimulate teachers, principals, supervisors, and administrators to a richer professional growth and mental alertness. Detroit has a definitely organized program which aims to do just this thing. Our system is based on the 6-3-3 plan. In addition the college units embrace an arts college, teachers college, school of medicine, and colleges of law, engineering, and pharmacy.

To keep all units operating harmoniously there is close coördination between the administrative staff, the supervisory division, and the college units. The deputy superintendent, who is the nominal head of all instruction, is directly responsible for a group of district principals, each of whom in turn is in charge of from fifteen to twenty elementary school buildings and their respective principals. A supervising director heads the intermediate schools and their individual principals, while an assistant superintendent has been assigned to coördinate the work in both intermediate and high schools.

The general supervisory program and the work of the special supervisors is unified by the supervising director of instruction. This plan of organization provides for a flexible integration of the groups upon whom the superintendent depends for the carrying out of broad policies outlined for the education of our community.

While primarily administrators, these officials, from the superintendent to the individual school principal, in keeping with modern practice, have also definite permanent supervisory functions. The department head in the intermediate or high school is a supervisor as well as a teacher. He devotes a minimum of twenty-five per cent of his time to the organization and supervision of instructional activities in his department. He is responsible to his principal for the success of these phases of work and for the instructional results. It follows that his qualifications should be those which have already been outlined as essential to supervisory leadership.

To further integrate the work and stimulate professional alertness, all instructional material prepared by supervisors for teachers and principals is routed through the administrative heads of the various units,

who, in turn, interpret it to the principals of the schools within their jurisdiction. Each principal of a building is responsible for carrying through the program with his own staff of teachers. Thus every principal and administrative officer is concerned with supervision and feels himself a recognized factor in the program for the improvement of instruction—an organization that makes for unity, intelligence, and sympathy of purpose. With the growth of large cities we have come to recognize that the coöperation and organization of all available supervisory agencies are essential if we hope to influence the educational products of 7,500 to 10,000 teachers working with some 300,000 children who are distributed in about three hundred buildings and who represent all types of social, racial, economic, and mental levels.

This brings us to our second means of improving our instructional program. I refer to the in-service courses offered by the professional college. Every supervisor in Detroit is considered a member of the college staff and, as such, he gives at least one in-service course for those teachers and principals in the field who wish to continue their professional study. The broad influence and practical leadership which may be radiated through such a channel have proved very effective.

A third approach to instructional development is made through demonstration lessons and discussions held under the leadership of the special supervisor for the principals of each of the units under which we operate. Every year sees such a series of lessons carried on under normal conditions, as far as possible, with regular classroom teachers, for the benefit of school principals and teachers. These lessons form the basis for discussions to establish a common philosophy of education, to review the principles of psychology, to agree upon the objectives of education, and so to bring about an intelligently united effort to improve the technique of teaching in every school in the city.

Finally, the supervisors prepare bulletins reporting studies and research which cover specific phases of their subjects. These bulletins are routed through the regular channels, that is, they are first presented to the general administrative groups, who then discuss them with their principals and teachers. The more detailed and technical aspects may be presented later to the teachers by the supervisors, thus providing for direct contact between the classroom teacher and the subject specialist.

In a modern program of supervision principals, supervisors, and teachers make practical use of the research tests and surveys which are given periodically. Both formal and informal tests furnish objective measures of teaching procedures. By their means we may discover intelligent diagnoses of educational ills and prescribe remedial measures—a process which is the common concern of teacher, principal, and supervisor. Such tests, if they are sufficiently comprehensive and if they are used to measure pupil growth, are in themselves, to a large degree, excellent substitutes for direct supervision.

The general survey tests are the newest and one of the very effective agents in our scheme of supervision. The right kind of survey test offers an appraisal of the whole program in a particular field. It aids the administrator to analyze the effectiveness of instruction, diagnoses existing conditions, and points the way to future goals. Survey tests should be given far enough apart to enable supervisors, administrators, and teachers to make adjustments in teaching procedures before the test is repeated. They should be given close enough together to permit a child to make contact with two or three tests in any one subject before he completes his work in the public schools.

What is taught in our schools depends upon our philosophy of life, our philosophy of education, the demands of present society, and what we think will be the requirements of that future society in which our children of today will be expected to play their parts as integral members. The changing economic and industrial world, the various civic-social conditions which move in a state of flux about us, determine what we shall teach and, in a like degree, they indicate how we must teach. The most valuable course of study, the most worthwhile curriculum must then be the democratic product of the combined efforts of teachers, principals, administrators, and supervisors in the school system. Let me illustrate how such a coöperative project is undertaken.

For four years we in Detroit have been engaged in developing a course of study in reading. The necessary research to diagnose the needs of pupils and the possible avenues of improvement was done largely under the leadership of the subject supervisors. Regular classroom teachers were released for periods of two weeks at a time to assist in the selection and preparation of reading materials, procedures, suggestive type lessons, diagnosis of probable difficulties, together with helpful remedial measures, and aids to the mechanics of reading. Several hundred teachers have contributed definitely to this program, which consciously aims to provide for all levels of reading ability. As it is developed, every unit is tested in the classroom, where it is rejected, modified, or accepted as the case requires. The problem of how best to administer the course receives the careful consideration of the principal in whose school the experimental classes are conducted, and he in turn is assisted by his district principal, who has of necessity a broader view of the field.

When this part of the work is done, a series of demonstration lessons is arranged for the principals, who thus become familiar with the new materials and procedures. Criticisms and suggestions are welcomed and encouraged.

What of value do these different groups contribute toward curriculum building? The specialist offers his expert knowledge of content, method, social values, and research. Principals add the results of their intimate acquaintance with problems of administering courses of study, since they can see the relations of all the subjects, the continuity of the educative process, and the need for harmonizing all these elements. Their contributions emphasize perspective and balance.

The teacher is expert in translating and adopting proposed theories and methods in practical forms suited to her particular classroom situations. Opportunity to enter actively into curriculum construction provides for the development of personal initiative, a more intelligent understanding of underlying purposes, and a more wholehearted and effective attempt to solve her own problems.

When the principal and subject supervisor evidence such a feeling of confidence in the teacher's professional attitude and ability, they help her to develop that self-respect, faith in her profession, and sense of responsibility toward her pupils which will enable her to work creatively, joyously, and fruitfully with the children who have been entrusted to her guidance. This is solving the problem of supervision on a high plane.

Since this ideal is more surely within our grasp day by day, and since its recognition is manifest in many of our progressive school systems, it is a matter of some puzzlement why the type of supervision generally described should be that which existed twenty or thirty years ago, when our division of the profession was in its

infancy, with neither art nor science at its command. Callow college graduates with little technique and less experience were employed to supervise teachers whose academic and practical equipment often exceeded that of the supervisor. Inexperienced and untrained superintendents and principals with a narrow, more or less sterile academic schooling, little insight into human relationships, and no well-defined philosophy of education attempted to inspect classroom activities.

The usual practice was to go from room to room, pencil and notebook in hand, and to sit at the teacher's desk or terrorize her with a glassy eye from some vantage point in the back of the room. The idea was, evidently, to assume an air of profound and mysterious wisdom, to make a few cryptic records on the teacher's personality, and to note the presence of paper on the floor or the condition of the window shades. Criticisms, to be good, had to be adverse, and they were usually superficial and insignificant. Before leaving the room, it was customary for the supervisor to take over the class in an effort to show how it should be done, but often he succeeded only in demoralizing the children and their teacher and ruffling his own sensitive dignity.

That is the type of supervision about which many people are still writing, and it is this kind of reputation which we are even yet trying to live down. I wish we could, in all our future thinking, speaking, and writing, stress the new kind of supervision—the type which is helpful to teachers and pupils, the type which concerns itself with instruction rather than with inspection and perfunctory rating. Rating teachers is an administrative task, associated with promotion, and as such it should be strictly avoided by the supervisor who hopes to gain the confidence and coöperation of the teachers in the improvement of instruction.

The best type of supervisory program, then, places its emphasis on the improvement of instruction, and organization must serve that end alone. As our methods in developing pupils insist more and more upon the importance of individual differences and the elements of choice and guidance, so the work of principals and supervisors must constantly stress these same values in working with teachers.

MY BEST TEACHER

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The other day I heard a college student say of a new dean, "Do you know, I like that man!" Whenever I hear a remark like that, I am always interested. Why does he like him? I always want to know. Whenever a student on any institutional level says of his teacher in a free, honest, unguarded manner, "Do you know, I like him," here is an opportunity to get at truth. It is probably as near an approach to truth in the field of teacher personality as we have, despite some bold claims of recent character analysts.

The writer has become convinced that the personality of the teacher looms large in any consideration of methodology. He is also fairly sure that "I like him" is a normal concomitant of real learning. Many teachers on all levels have said, "I do not care whether my pupils like my work or not; they can take it or leave it." These same teachers ought to care.

Close your eyes, sink back in an easy chair, and reflect over the teachers you have had—those who were good, and those who were bad, even as you and I. Many years ago you folded up your tents and stole away from the bookish lore. Your classroom lessons of those days have long since passed from memory's screen. What do you remember now about those teachers of other days? What was it in them that has impressed itself upon you over this span of years? Can methodology be content with anything less than this?

But, methinks I hear a scientific friend whisper, "Are you sure these data will possess validity, objectivity, and reliability?" I hear a scrambling in mechanical tool kits for standard deviations, regression equations, and probable errors. I see a somewhat vigorous brandishing of the correction for attenuation formula. But I hear one sane worker of the craft say, "Rest, ye faithful servants of science; you have done well. You will have much work to do, but permit your brothers to work this day."[1]

The writer recently asked a group of fifty public school teachers to describe in a brief statement the best teacher they had ever had. This statement was to indicate why they considered the particular teacher the best. The abbreviated statements of these teachers follow. In the process of selection and abbreviation, the writer has endeavored in each case to preserve the exact essence of each teacher's statement. References have been omitted to the possession of such general traits as: personality, preparation, scholarship, character, humor, sympathy, teaching method, etc. A careful attempt has been made to select statements which will indicate how a particular trait specifically manifested itself. For those educationists who believe that the degree of difference between one teacher and another can be measured in terms of a mean square deviation emanating from their respective pupils' spelling scores, these statements have little significance. It is hoped they may have suggestive value for those who believe in the broader view of method. The statements which follow are "tips about the masters" from their students who knew them.

[1] Raup, R. B., "Limitations of the Scientific Method," *Teachers College Record*, December, 1928.

1. He was all wrong, pedagogically. He would forget to ring the bell, and one class would last half the afternoon while he told tales. We students felt superior; we were bored at his stories of himself, and were frankly rude. If he noticed it, it made no difference, he talked on. We learned no physics. I don't know whether he knew anything about physics. At any rate we all failed on Regents in January. But while he was talking, it began to occur to me that possibly there was something else outside the small town where I lived. Other people were doing things differently from us. Far-away places became alluring and I longed to travel. Mr. Blank opened up a world to me that perhaps I should never have dreamed of, and I wanted to break away. Since then I have traveled a little, have learned that nearly all people are interesting, and that subject matter as such is relatively unimportant. Probably if a vote were taken of my schoolmates, the majority would not call him a good teacher. But because he let the first glimmer of light into my own mind, to me he will always seem great.

2. Her success was due largely to her tremendous vitality and good humor. She overflowed with life, radiated confidence and vigor. Her classes were swept along with her. Her appearance, voice, and manner all seemed to suggest accomplishment.

3. There was something about him that attracted me, and we became close friends. I could bluff many teachers, and usually successfully, but I never had any desire to do so with him. He gave me great inspiration. I wanted to be a forester and live out in the great outdoors, under the stars. He made me see the beauties and wonders of nature so near. He always listened patiently to my childish questions and showed an interest in me as an individual. His interest still follows me in my work outside of school.

4. She could make seven-year-old Johnnie forget his skinned knee without babying him; and, with a little quirk of the mouth, make the football captain ashamed of being a poor loser. She played with the children and enjoyed it. She developed good sportsmanship in a field where it never grew before.

5. She was young and beautiful, quite athletic. In the winter she would go on coasting and skating parties. She would also help the boys in basket-ball at the gymnasium. In the spring, when the water was warm, she would allow the boys to go in swimming in the old swimming hole back of the school yard.

6. His ability to tell stories that illustrated, his humor, and his ability to make one feel at ease will remain in my mind always.

7. This young college teacher took the attitude that he was going to study and learn as well as the students.

8. She had a broad interest in life and human beings. She had been a social worker and had traveled extensively. She had had so much actual experience that it was a pleasure to hear her talk.

9. One realized that he not only wished to see different sides of a question, but actually did see them.

10. The classroom was a constant experience in civic life. No one left her class without feeling that "every day in every way the world is growing better and better." She inspired us to want to make this truth obvious to the non-believers.

11. The subject matter was made very interesting by many of his personal experiences and appropriate stories. It was not "sugar-coated" subject matter but the "stuff" that tied what we were learning with real life experiences. I have forgotten now most of the facts learned in the course, but I firmly believe I shall always keep the attitude and ideals instilled there. We can never forget those teachers of our experience who gave us something of themselves, something which we could not name but which nevertheless is in our make-up.

12. She was an old maid, but she had a young and warm heart. Torn from the apron strings and thrust out among strangers, I clung to her as a drowning sailor to a floating raft. I shall never forget her.

13. The pupils seemed to understand that she was there to help them, and they never thought of doing anything to displease her. In community work there was no task with which she

would not help. She was perhaps worth more to the community in this way than all the other members of the faculty.

14. Miss Blank told us interesting experiences she had had in travel. History was not the "dry old stuff" we expected it to be. We even talked about some historical novels in class.

15. Out of class he did not talk of school and his work, but rather of the coming football, basket-ball, or baseball game; also of other things of interest in our everyday life.

16. This junior high school teacher conducted her classes in such a way that when one entered the room he had to feel happy. There was always a cheery introduction to the class work. There was no loss of time, and yet no tenseness between teacher and pupil.

17. He was intensely interested in books and literature, and had a large library of his own to which he added constantly.

18. She was precise in her methods without being hide-bound.

19. She was one of the plainest women alive. Her life consisted of school and home, nothing else.

20. Her presentation was extremely lucid and simple.

21. His voice was low and he never seemed to talk much in class. He was a small, twinkly, quizzical man. He had a fine sense of humor and wasn't afraid to laugh.

22. He was an unassuming wizard in his field.

23. He lectured without notes or manuscript, and seemed to be a master of his field.

24. He was an embodiment of the new education. His methods were modern and interesting.

25. He chummed with the boys without losing his dignity.

26. He used illustrations freely. He gave short tests frequently. These tests were always graded and returned to the students. He understood the psychology of teaching and the human side of students.

27. She made the students feel she was interested in them personally. She was firm yet kind toward all. She appealed to the finer civic and social responsibilities of individual pupils.

28. He could handle all the usual grade school subjects, was at home with those Latin and Greek authors included in the high school curriculum, delighted in mathematics, and had as his hobby the sciences. He was a lover of the outdoors, and had a fondness for sports of the strenuous type such as football and rowing.

29. He was ever courteous, always a gentleman. He was most approachable and welcomed all with a kindly smile.

30. Aunt Hester held her charges to their tasks, and the sun never set on an unfinished assignment. She delighted to lead, but she could drive.

31. I knew then that she was sincere in her preparation, careful in her assignments, tolerant in her attitude, and considerate of my mistakes.

32. He presented his subject in an unbiased manner. I could disagree with him, and yet he respected my opinions. He did not load his classes with unfair assignments. I did much unrequired work because of my own desire.

33. He was my ideal teacher. First, and most important, I knew he believed what he taught in his classes. In his particular field I saw the difficulty of being too dogmatic. He threw out problems, listened to discussion, then threw out a suggestion to the class. I knew that I would try to carry out these suggestions. Since then I have found these suggestions helpful many, many times.

34. In summing up this teacher, may I say, she "sold" her course.

35. She was one of those quiet, dignified persons who never became angry and seldom became annoyed. Her students worked hard but were never ruffled. She liked her boys and girls but did not stand on her head to amuse them.

36. She knew the subject matter, made her class interesting, disciplined easily. She was liked by nearly all the pupils, and had found the happy medium between friendliness and aloofness, and did not nag.

37. This coach left an indelible impression on my mind. His athletic creed was the Golden Rule, which he carried out in practice. He took a fatherly interest in each of his players. I really believe he taught, at least indirectly, every subject in the curriculum. His fair play, his mode of living, his gentlemanly manner, his very example seemed to be the model after which we wished to plan our lives. He was a real gentleman and we wanted to be like him.

38. She was an artist. She loved her work, and loved to work with her pupils. Her glee club concerts will always be a pleasant memory to me.

39. She was comfortable and tranquil in the conduct of her class, as every English teacher should be. One never felt the speed mania in her class. Her interpretation of selections in literature left a lasting impression.

40. He taught science, not the "manual." Never was a question left hanging in mid-air. We learned the H_2SO_4 side of chemistry along with removing ink from clothing.

41. Mr. Blank liked boys. He went out on hikes with them every Saturday.

42. He was not only a master of history of the past, but had a clear comprehensive grasp of history in the making.

43. He made a special effort to see each pupil individually, and get acquainted with him, talk over his problems, and help him in any way he could. Many of his boys were helped by him financially when they went to college.

44. He was witty, a very good conversationalist, and a good social mixer.

45. The work was varied in manner of presentation, and one could be sure of a surprise every day.

46. She was a lover of boys. She always went with us on basket-ball trips, and cheered heartily for the team. She never had any trouble with the boys in discipline. They had no desire to offend her because she was really one of them.

47. I liked her because she seemed so truly cultured and refined. She brought to my life something which I had never had at home. For this I shall always be truly grateful.

48. She seemed to feel that we were worth while. She was always ready to help us with any problem, trivial though it might be.

49. She was like a submarine, a master of irregularity.

50. I knew that in a real sense she was my friend.

A careful reading of the above statements reveals the significance of personality in teaching, the "It" of life, that which makes you *you* and me *me*. Personality seems to endure when techniques fade away. A student of Louis Agassiz once wrote: "I was one of those favored ones who years ago tramped over the hills of Old Switzerland with Louis Agassiz. The relationship seemed to be not that of master to student. We seemed to be on a parity." And so it was with the students of Pestalozzi, the boys of Arnold of Rugby; and so it is today with those who have felt the personality contact of such master teachers as Bagley, McMurry, and Kilpatrick. As one teacher above remarked: "These great souls give us something of themselves which is everlasting." These reflections prompt us to pause intermittently in the scramble of the Machine and Measurement Age before the words of the poet:

Mark Hopkins sat on one end of a log,
And a farm boy sat on the other,
Mark came as a pedagogue,
And taught as an elder brother.
I care not what Mark Hopkins taught,
If his Latin was small and his Greek was naught;
For the farm boy he thought, thought he,
All through lecture time and quiz,
The kind of man I mean to be,
Is the kind of a man Mark Hopkins is.

THREE TYPES OF SCHOOL SUPERVISION

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Professional supervision in the schools is still a novelty. It is only within the past decade that an attempt has been made to train definitely for supervision. The promotion of a teacher, however professional he may be in his teaching, will not make him a professional supervisor. Moreover, it does not necessarily follow that one who can teach pupils effectively will also be able to teach others to do so. It is highly probable, however, that the better teacher will make a better supervisor, especially if supervision is defined as "helping the teacher to help the child." Many supervisors at present in service in the public schools have been helping teachers "to do it the way that I used to do." Some have undertaken to obtain a professional training in summer schools, but their work is often in educational philosophy and the more general subjects required for a degree rather than in the improvement of instruction. Many are in need of definite training in the tools and techniques of supervision.

At the present time supervision is undergoing a very interesting change which is destined to continue for some time—perhaps forever. All types of supervision exist almost side by side, but there is a constant tendency toward the professional type of supervision. For convenience, and to make the situation somewhat clearer and more definite, all supervision may be divided into three types: the political type of school supervision, the military type, and the professional type. No individual supervisor is exclusively of any single type; he has elements of all three, but one type usually predominates in any particular person.

In the following paragraphs, as the various functions are described under each type of supervision, it is easy for most readers to recall individuals in whose work each particular method of supervision has predominated.

1. The Political Type of School Supervision.

In school supervision of the political type, the principal aim of the supervisor is "to hold his job and secure promotion." This is purely a political aim and a relic of the former methods of securing supervisory positions through political influence. It is natural for persons of such origins and with such aims to operate by the method of building up a personal following, making personal friendships and fraternal connections, conferring favors or promising them, and keeping an eye on the *next in rank above and below.* These are well-known political methods. They have little to do with merit, efficiency, character, or *service to children.* Their motive is selfish and unprofessional. The political type of supervision naturally rates teachers on a basis of *personal loyalty*: "Can I count on her to speak well of me, to warn me of dangers, to repeat the malicious gossip of my enemies to me?" It is not professional, but it contributes to the essential aim of "keeping the position" and "getting promoted." And in the same way political supervision is content to rate the pupil by an entirely subjective judgment, tempered somewhat by the position or influence of his family or by whether com-

plaints will be made if he is not promoted. The natural result of such supervision is the distrust of superiors and associates, jealousy, and the neglect of professional requirements. With such results, the only excuse for the existence of such supervision is tradition, politics, lack of real professional training, and so-called "necessity."

2. The Military Type.

School supervision of the military type presents quite a different picture. Many a staunch school man or woman who would despise the political type of supervision has attempted military methods. The aim of the military type is "to get results," "to improve the quality of grade work." (It is easy to raise grade standards by merely holding pupils back.) The methods usually adopted are by "putting on the screws," by *driving* both pupils and teachers, by *competition*, by keeping an eye on *results*, by putting *pressure* upon principals, teachers, pupils, and parents. The military type of supervisor rates the teacher according to the performance of the class in the work of the grade without regard to the ability or the previous preparation of the pupils. Pupils are rated by tests, but the tests are usually subjective and no attempt is made to allow for the ability or the previous training of the pupils. The results of military supervision are *competition, fear, worry, overwork, failure, discouragement,* and *dissatisfaction* on the part of principals, teachers, pupils, and parents. The reasons for the adoption of this method are lack of professional training, "necessity," and "efficiency," so-called. It is the *only way* that this type of supervisor knows how to supervise. One may well admire his courage, independence, and hard work, but not his intelligence, his psychology, or his professional spirit.

3. The Professional Type.

The true professional spirit is essentially a spirit of service. The aim of professional supervision is to serve individuals—the principals, teachers, pupils, and parents—*not to drive, but to aid.* The method of operation in professional supervision is by building up teacher and pupil morale, by coöperation, by the spirit of service from the bottom up: pupils help each other, the teacher helps the pupils, the principal helps the teacher, the supervisor helps both principal and teacher, etc. Each keeps his eye on the *task in hand*—not on the "results" or on the next person in rank. Professional supervision rates the teacher on team work, on the attitude of her pupils, on their improvement over their previous achievements, on growth and progress in each subject according to their ability, or on their increasing achievement quotients.

The results of professional supervision are *coöperation, trust, teamwork, mental health, success,* and *joy in work* on the part of pupil, teacher, and principal. Such results should follow professional training of the right type. The professional method should be adopted because it results in the professional growth of teachers and produces the best results for the welfare of both pupils and teachers.

In proportion as the attention of supervisors is devoted to *helping teachers to understand and serve pupils,* supervision becomes more professional and less military or political. Nothing has so enabled supervisors to help teachers to understand and serve pupils as the development and use of standardized educational and psychological tests. A knowledge of individual differences and needs is the foundation of good teaching and of professional supervision. A glance at the accompanying table will emphasize the contrast between the different types of supervision.

It is easy to show that essentially both the political and the military type of supervision are not, and never can be, truly efficient. Perhaps it will suffice, however,

TYPES OF SCHOOL SUPERVISION

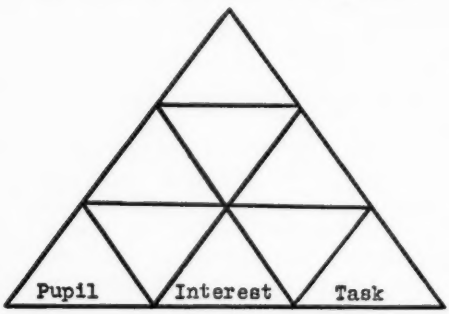
No individual supervisor is exclusively of any one type. In general, supervision is becoming more professional. (Read both vertically and horizontally.)

	1. School supervision of the political type	2. School supervision of the military type	3. School supervision of the professional type
1. Aim	To hold his job and secure promotion	To get results	To serve individuals — teachers, pupils, and parents
2. Methods of operation	By building up personal following By personal friendship By conferring favors or promising them By keeping eye on next in rank above and below	By "putting on the screws" By discipline of both pupils and teachers By competition By putting pressure upon principal, teachers, pupils, and parents By keeping his eye on "results"	By building up teacher and pupil morale By coöperation By the spirit of service from the bottom up: the pupils help each other, the teacher helps the pupils, the principal helps the teacher, etc. By keeping his eye on the task in hand
3. Methods of measuring the teacher	Rates the teacher on a basis of personal loyalty	Rates teacher according to class performance in grade work	Rates teacher on teamwork, and on attitude and improvement of pupils
4. Methods of measuring the pupil	By subjective judgment	By subjective tests of grade work	By achievement quotient and growth By objective measure of progress in each subject
5. Effects of the method of supervision	Distrust of superiors and associates, jealousy, neglect of professional requirements	Competition, fear, worry, overwork, failure, dissatisfaction on the part of principal, teacher, pupil, and parent	Coöperation, trust, teamwork, mental health, success, joy in work on part of pupil, teacher, and principal
6. Reasons for its adoption	Tradition; lack of training; "necessity"	Only way he knows how "Necessity" "Efficiency"	Professional training, professional growth Produces best results for welfare of pupils

merely to show that the professional type is sure to contain the necessary elements that make for efficiency.

The situation is made clear by an adaptation of a very interesting diagram which appears in the book, *Personnel Management*, by Scott and Clothier. Although the diagram illustrates the unit of efficiency in employment, the principle doubtless holds true in education as well, since the school work represents the task, the pupil is the worker, and the unit of efficiency represents the educational result. To paraphrase the matter: the final unit of efficiency appears to be not a single element like the atom, but a composite unit like the molecule. It is not the pupil, nor the teacher, nor the educational task, but the proper combination of the three. It may be called the pupil-in-his-work unit (the worker-in-his-work unit) and it consists of three essential elements, namely, *the pupil*, the *task to be accomplished*, and a third element which is largely supplied by the teacher and which may be called "*interest* and assistance." In a diagram the relation becomes evident.

THE UNIT OF EFFICIENCY IN EDUCATION



Motivation
Teacher
The Pupil-in-his-{grade / work / class} Unit

paraphrased from
"The Worker-in-his-work Unit," Scott and Clothier, *Personnel Management*

It will be noted that the unit is not merely the sum of the three elements, but is the result of *growth*, which in turn results from the proper combination of the three elements. If the task is neither so difficult as completely to discourage the pupil nor so easy as not to challenge him, and if the teacher can arouse interest and give any assistance that is required in mastering necessary principles and techniques, the result is a learning unit which is not the sum of the three, but something far greater and more important. If, on the other hand, the task is too difficult or too easy, or if interest is not aroused, or if the necessary assistance is not provided at the proper time, learning does not take place.

Probably the best possible education is a series of successes at worth-while, challenging tasks. The result is self-confidence and the development of interests, abilities, and social usefulness. Such an education can efficiently be obtained only from the proper educational adjustment of the pupil to his task by the teacher who understands both and who substitutes measurement for opinion in her work of pupil adjustment.

Probably the worst type of education is continuous experience with failure or boredom. A dull child who daily faces tasks that are beyond his ability is doing the normal and natural thing when he seeks escape from an intolerable situation through truancy, anti-social conduct, and rebellion against school authority. The same is true of bright children who are bored with endless reviews of work which they have already mastered. It is probable that the traditional school does quite as much damage as good to children of both these types. To require a child to attend school daily in order that he may be scolded, humiliated by comparison to his

own disadvantage with brighter or more successful pupils, and taught that he is stupid and inferior, this is a cruel and unusual punishment which should be outlawed by the courts. And to force a child to remain at tasks which he has already mastered is inexcusable and costly stupidity.

The matter of the proper adjustment of pupils in grading and classification is so important as very largely to condition the success or failure of even normal and superior pupils. More than three-fourths of all cases of truancy and serious discipline are clearly the result of improper school adjustment in grading, classification, and differentiation. If we add to these the needs of adjustment in the choice of curricula in the secondary schools, the problem of individual adjustment takes on even greater importance. Consequently, whenever through professional supervision teachers can become better acquainted with the essential facts of pupil adjustment and of individual differences upon which scientific adjustment depends, a step has been taken which should result in greater educational efficiency.

Political supervision is passing out because it is inefficient. Military supervision is bound to go because it does not produce proper conditions for growth—the "pressure method" never does. However effective it may be in cooking foods, such high temperatures invariably destroy life and make growth impossible. Professional supervision, based upon accurate measurements of individual differences in abilities and in achievements on the one hand, and upon a knowledge of teaching and supervisory technique on the other hand, is sure to grow because it is essentially the most efficient type and produces the desired results.

HISTORY MAP TEACHING

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The justification for adequate map equipment in history teaching is established. The map paraphernalia consists in maps that grace the classroom walls and map outlines that occupy hours of the student's time, needfully and at times needlessly. Without these well-chosen adjuncts, the student is denied the proper perspective and environment in his history study.

As for the wall maps, much of their efficacious value to the student is questionable. The wall map fails to convey to the average student the ever-changing course of human history. Instead, the student is impressed with a completed static conception of history as he envisages a colored map of the United States or Europe of today on the classroom wall. Those classrooms that are equipped with serial wall maps of the United States and the World are more favored. Even here, the student is apt to conceive of the course of history as a series of anticlimaxes.

Furthermore, the hanging wall map distorts the student's perspective of the points of the compass. Many educated adults think of north as up and south as down in consequence of these erroneous associations made in their school days. Only after they dissociate themselves of these conceptions do they acquire a true perspective of direction.

The great shortcoming of the colored wall map is the fact that it is colored. The beautiful mosaic of color bewilders the students from the vantage points of their seats, so much so that they lose sight of the locations of the rivers, cities, and mountains that are really significant by comparison. The map makers introduce altogether too much data in their maps.

To say that the presence of colored wall maps impresses the students with the great changes which time has wrought and stimulates the students to greater effort shows a misunderstanding of student psychology. No doubt proper instruction in the classroom may well offset these disadvantages, but this does not eliminate the shortcomings of such classroom paraphernalia.

In recent years, outline map studies have become the vogue in history teaching. Such exercises are invaluable to the student. The student tends to live the experiences of the episode which he is considering and to pursue the actors of history in a shifting stage setting. Since the outline map is employed horizontally the student can, if he will, immediately acquire a true conception of the points of the compass.

More important is the simplicity of the map study as compared with a wall map, heavily cluttered with data. What information the student is asked to feature stands out as the student's version of the historical episode. It may be the Colonial Empires in 1783, Europe after the Great War in 1921, or any other project. Whatever it is, the derivation of the necessary information from the textbook and its graphic representation by the student help to impress the episode on the student's mind. Frequently, these worth-while purposes are defeated. The student overemphasizes the crayon color scheme of his map at the expense of the exactness of the

historic information. Worse still is the opportunity that outline map studies afford the student to cheat. How easy it is for students to copy an outline map study from one another.

The purpose of this paper is to explain a procedure which retains many of the values of wall maps and outline map studies but eliminates many of their disadvantages.

Instead of the outline map studies being done at home by the student, the outline map study is completed in the classroom. The student spends altogether too much time preparing his map outline exercise. Students report spending three and four hours doing one such exercise. An analysis of such exercises reveals an overemphasis by the student of the artistic features of the map outline study at the expense of the geographic, economic, or historic information. A weekly or fortnightly fifteen-minute classroom outline map study on a McKinley or other outline map is ample to determine the student's economic, geographic, and historic information of a certain episode. With the profuse maps in our newer history textbooks, it is not unreasonable to ask of students that they be informed of all of the important economic, geographic, and historic data germane to the subject matter of the lesson. Such a methodology minimizes the time the student spends on his map studies without a loss to his historic information. The student's historic understanding should become more comprehensible since he is constantly consulting his textbook maps as he prepares his classroom assignments. Furthermore the teacher is not burdened with the task of deciphering the historic data from the heavy layer of crayon coloring.

In conjunction with the frequent classroom outline map studies, the use of blackboard outline maps for exercises in which the whole class participates is indispensable. The most useful blackboard outline maps are those of the World, of Europe, and of the United States. Once prepared, history teachers need no advice as to how they may be employed as an adjunct to the classroom history outline map exercise. Having a student perform on the blackboard outline map simultaneously with the class exercise or immediately afterward, so that the entire class might profit thereby, has been found most helpful.

Furthermore, such a blackboard outline map is an excellent device for demonstration purposes. The information to be brought before the class by teacher or student stands out more from the blackboard than compared with such an effort on a colored wall map filled with data, which may or may not be pertinent to the problem at hand.

The construction of a blackboard outline map is a simple matter. Most classrooms have blackboards that, because of their poorly lighted surfaces or because of their poor surface textures, have little demonstrative value. Even the use of excellent blackboards for blackboard outline maps can be readily justified since the blackboard surfaces so used can be employed for the usual classroom work by just ignoring the outline maps thereon. Teachers, skeptical of the value of the experiment, might choose to employ their inferior blackboards. If the experiment proves unsatisfactory, the blackboards can be cleansed of their outline maps by means of a hot water wash or, better still, by means of a wood alcohol wash.

The construction of a blackboard outline map is based on the principle of "the rule of squares" as the artist jocularly refers to it. To reproduce an outline map on the blackboard, select your desk outline map first. The McKinley desk outline maps provide a very large variety from

which the teacher may make his choice. The desk outline map is then ruled into any number of quadrilaterals of equal dimensions, ignoring the lines of latitude and longitude. Twelve equal quadrilaterals are a desirable number. The blackboard upon which the selected outline map is to be reproduced is cleaned and ruled in white chalk into an equal number of quadrilaterals. Naturally the dimensions of the quadrilaterals on the blackboard will be a definite number of times larger than the dimensions of the corresponding quadrilaterals on the desk outline map, though the number of quadrilaterals on the blackboard and the desk outline map will be identical.

The task then resolves itself into reproducing the coastline included within each quadrilateral on the desk outline map within the corresponding quadrilateral on the blackboard. This task requires surprisingly little artistic ability. Frequently, students with some artistic leanings may be pressed into this service. One blackboard outline map can be made in about three hours. It would be well for the sake of clarity to omit the lines of latitude and longitude, and the names and locations of rivers, cities, and mountains. Any of this information may be provided, when need be, by the student when he does his exercise on the blackboard outline map. All that is fundamentally necessary is the coastline of the territory. It should be drawn in yellow chalk rather than white chalk, since yellow contrasts better with the black of the blackboard than white.

With a clean board eraser cleanse the blackboard of everything but the yellow coastline of the territory. Procure a little bottle of "fixitive" and a blow pipe, which goes with it, in any artists' materials store at a nominal price. The "fixitive" is a liquid consisting primarily of shellac and wood alcohol. One end of the blow pipe is inserted into this liquid. As you blow through the other end of the blow pipe, a fine spray of "fixitive" escapes. When this spray of "fixitive" is directed on the yellow chalked coastline, the alcohol evaporates, leaving a thin layer of shellac on the yellow chalked coastline, rendering the latter fairly permanent. The shellac becomes dry immediately and will resist the wearing away of the yellow chalk by the ordinary blackboard erasing.

To cleanse the blackboard on which the yellow outline is decorated, use the blackboard eraser or cold water. Hot or warm water will dissolve the shellac and expose the yellow chalk to erasure.

Some teachers might prefer to paint the coastline with yellow paint instead of using the yellow chalk and the "fixitive" shellac protective. The former is a permanent treatment of the blackboard whereas the latter is not as permanent.

SPELLING—THE INDIVIDUAL METHOD VERSUS THE CLASS METHOD OF INSTRUCTION

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PURPOSE OF THE EXPERIMENT

In the last fifteen years scientific research has played an important part in the determination of the content and method of spelling as a school subject. Valuable word lists have been derived in accordance with criteria set up by their respective proponents. Similarly, different methods of teaching spelling have been developed on the basis of the application of sound psychological principles to the problem. The spelling period has become primarily a time for teaching needed words rather than an opportunity for testing the mastery of long lists of words assigned indiscriminately for home study.

With the advent of the interest of educators in discovering the individual differences among children and seeking to adjust educational practices to meet these individual needs, a still further impetus has been given to the seeking of methods which will be most effective and economical in producing maximum results for each child. In ability to learn how to spell, just as in all other human traits, children vary greatly. Some master spelling tasks far more easily than their fellows. Some have greater ability to retain their mastery than others. In the same class there are children who at the outset can spell many of the words prescribed for that grade. It is not known with any degree of certainty what part is played by children's innate abilities, by their varying interests and purposes, by differing teaching methods. Attempts have been made to take these matters into consideration through the use of maximum-minimum word lists, through purely individualized and partly individualized instruction, through homogeneous grouping of pupils, and greater attention to the technique of learning to spell.

An important consideration presents itself: "Is there greater likelihood that teaching spelling by the customary class method will produce a more or a less effective spelling mastery than the procedure whereby each child studies individually only those words which he knows he cannot spell?" Great interest is now focused on individualized instruction and much has been written concerning it. However, relatively little controlled experimental work has been done to weigh its achievements against other more widely used plans. So far reported results have been in the main inconclusive. The study here described is the outcome of an endeavor on a small but intensive scale to find a definite answer to that question. Specifically the problem of the experiment was to determine how the achievement of pupils in grades 5 and 6 of a particular school organization is affected by teaching spelling through an individual curriculum based on the pupils' own spelling errors or inabilities, as compared with the effect of teaching spelling through the usual class procedure.

METHOD OF THE EXPERIMENT

At the beginning of the spring semester in 1928, the pupils of grades 5A and 6A

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in the William Welsh School, were organized into two pairs of parallel classes equated by the method of pairing pupils. For practical reasons several other pupils had to be included in the classes, but only the results of the paired pupils were used for the study. The pairing was based on chronological age, raw score obtained in the Otis Self-Administering Intelligence Test, Form A, and I.Q. derived from the same test. The equivalence of the corresponding groups on the given bases, and in the matter of sex and ancestry, is evident from Table I.

On the whole, it appears that the equated groups were comparably equivalent in spelling status as measured by the list used. See Column 2, Table III.

The spelling achievement of each group was measured at the outset by administering List 2 of the Morrison-McCall Spelling Scale. The scores obtained in this test established a basis for later comparison of achievement as between equated groups, and for estimating gains or losses for each group separately in the course of the experiment. In the later measurements, List 3 and List 4 of the same scale were used. Owing to the presence in these lists of several words studied by the children during the experimental period, an adjustment had to be made. The words *restaurant* and *physician* in List 3, and *century* in List 4 were among those listed for study by the sixth grade groups. These words and their equivalents in all the scale lists used were therefore omitted from the scoring, leaving only 47 words to be scored in each Morrison-McCall test. Similarly, in the fifth grade the words *session* and *surprise*, together with their equivalents, had to be omitted, leaving 48 words to be scored in each test.

After the organization and the initial testing of all the classes, 5A-1 and 6A-1 proceeded with their spelling work by means of what shall be called hereafter the Individual Method (I.M.), while classes 5A-2 and 6A-2 proceeded under the Class Method (C.M.). The spelling material consisted of 144 words selected from the list prescribed by the Philadelphia Course of Study in English for the respective grade sections. Three half-hour periods weekly for eight weeks were used for the first half of the experiment. Beginning

TABLE I

DATA SHOWING THE EQUIVALENCE OF THE EXPERIMENTAL AND CONTROL CLASSES AS REGARDS RAW SCORE, I. Q., CHRONOLOGICAL AGE, SEX, PARENTAGE

Class	Number of Pupils	Otis Raw Score		Otis I. Q.		Chronological Age (months)		Sex		Parentage		
		M.*	S. D.†	M.	S. D.	M.	S. D.	Boy	Girl	Ital.	Amer.	Jew.
5A-1	35	14.9	4.9	84.6	9.5	131.5	13.3	18	17	26	8	1
5A-2	35	15.0	4.6	84.7	9.5	131.7	12.6	20	15	30	4	1
6A-1	30	20.3	7.5	79.8	10.5	150.1	14.8	15	15	22	6	2
6A-2	30	20.4	7.5	79.9	10.0	150.2	14.0	13	17	26	2	2

* M. = Mean † S. D. = Standard Deviation

TABLE II

WORDS OMITTED FROM SCORING IN ADMINISTERING THE MORRISON-McCALL SPELLING SCALES, LISTS 2, 3, AND 4

Grade	List 2	List 3	List 4
6A	investigate	piece	century
	parliament	restaurant	superintendent
	endeavor	physician	allege
5A	their	whose	surprise
	association	session	arrangement

with the ninth week, the classes switched methods, continuing for eight weeks longer and using a second list of 144 words similarly chosen. A total of 24 half-hour periods were used during each half of the experiment, 20 for study and 4 for testing. During the entire period, no devices were used to stimulate the pupils to extraordinary effort in mastering the lists of words.

DESCRIPTION OF THE TWO METHODS

I. The Individual Method.

A list of 36 words was read to the class and discussed to familiarize the pupils with the pronunciation and contextual meaning of the words, and then dictated in column form as a pre-test. The teachers personally corrected the papers. At the next period, each pupil received his paper, together with a mimeographed list of the pre-tested words on which to check his misspellings. The teacher explained a desirable method to be used by the children in studying spelling. The same directions in printed form were given to each pupil.

HOW TO STUDY SPELLING

1. Look at the word carefully and try to pronounce it distinctly but very quietly.
2. Look at the word and spell it quietly by syllables. Look in the dictionary to make sure of the syllables.
3. Close your eyes and try to picture the word while spelling it quietly by syllables.
4. Examine the word to make sure you are right.
5. Picture the word again. Compare.
6. Write the word without copying. At the same time spell it quietly by syllables. Compare.
7. Continue writing the word several times without copying. Compare to make sure you are right each time.
8. Come back to the word later to see if you can spell it quietly and write it correctly without copying. If you make a mistake, study the spelling again, as the word is a hard one for you and will need special attention.

Try to be a 100 per cent speller.

This technique was emphasized at the beginning of each period, the teacher also helping individual children acquire the method during the spelling period. It became an objective to make the pupils realize the need of having a good method, to give them a clear realization of each step in it, and to create a desire to use it always. The first few minutes of each period were used with this purpose in mind. The next fifteen to twenty minutes were used by the pupils in individual study of the words which they had misspelled or of whose spelling they felt uncertain. The pupils were excused from spelling as soon as they felt they had mastered all the words in the list. They could use this time either in helping slow children, or in studying or reading in any other subject. The teacher went about among the children to assist them in their individual difficulties and to make sure that proper learning habits were being formed. The remaining few minutes were used by the pupils in testing each other. This proved to be the most fascinating part of the period for all the children.

At the end of the second week, and every other week thereafter, there was a re-test

of the 36 words just studied, plus 14 words from any of the preceding lists, followed by a pre-test of the next set of 36 words. Four such lists comprised the work of each half of the experiment. No assignments were made for home study of the word lists, this being left to the initiative of the pupils themselves. However, in order not completely to sacrifice meanings, sentences with blanks were frequently assigned to be filled in with the proper words from the spelling lists. No study review of words was made after the two weeks' interval in which they first occurred. Outside of the pre-testing, re-testing, and inter-testing among the pupils, no formal tests were given by the teachers.

II. The Class Method.

As regards lists of words, number and length of spelling periods, method and frequency of pre-testing and re-testing, the class method duplicated the individual method. The distinguishing feature was that, after the correcting of the pre-tested words by the teacher, all the words in the list were taught to the class as a whole. In this work the teacher was guided by records of the relative difficulty of the words as indicated by the number of failures on each word. The 36 words of each list were taught in five lesson periods, together with any words the teacher thought should be reviewed. At the conclusion of each period, the new and review words taught that day were dictated and checked. All pupils were instructed to study at home all of the day's words. Also sentences involving the filling in of blank spaces or the use of the spelling words were assigned.

The following procedure was used by the teacher when handling the class method:

1. Write the word on the blackboard and pronounce it distinctly to the class.
2. Have the individual pupils pronounce it.
3. Develop the meaning of the word in context. In Grade 6A, let pupils use the dictionary to verify the developed meaning.
4. Indicate the syllabication of the word on the blackboard and by oral spelling of individual pupils.
5. Point out crucial parts of the word.
6. Have pupils look carefully at the word, close eyes, try to picture it, spell it quietly or mentally, and compare with blackboard copy.
7. Repeat (6) two or three times.
8. Have pupils write the word on paper, spelling quietly. Compare with blackboard copy.
9. Repeat (8) several times. Make sure the pupils are comparing after writing.
10. While the pupils are writing the word, the teacher goes among them to see that the correct form is being written.

RESULTS OF THE EXPERIMENT

The effectiveness of the procedures just described were measured by: (a) testing with the Morrison-McCall Scale; (b) testing with lists of 50 words each from the spelling lists studied; (c) testing retention of ability to spell words studied.

I. Spelling Achievement as Measured by the Morrison-McCall Scale.

Since the words of this scale were not used during this experiment, gains or losses would at least indicate tendencies to growth or loss in ability to spell words not specifically studied. List 2 of the scale was given at the beginning of the experiment, List 3 at the end of the eighth week, when the classes changed methods, and List 4 at the conclusion. Table III summarizes the mean scores of words spelled correctly by each group in the spelling lists 2, 3, and 4, together with the gains and losses at the conclusion of each half of the experiment.

A study of Table III reveals little that may conclusively prove the merits of either method, since in general the changes in scores due to the two types of procedure

TABLE III

INITIAL AND FINAL MEAN SCORES OF WORDS CORRECTLY SPELLED
LISTS 2, 3, 4 OF MORRISON-MCCALL SPELLING SCALES

Class	List 2	List 3		Gain or Loss	List 4		Gain or Loss
	Mean Score	Mean Score	Method		Mean Score	Method	
5A-1	19.8	20.5	I.M.*	.7	21.4	C.M.†	.9
5A-2	20.8	21.3	C.M.	.5	21.3	I.M.	.0
6A-1	25.2	25.4	I.M.	.2	25.8	C.M.	.4
6A-2	24.6	23.5	C.M.	−1.1	24.2	I.M.	.7

*I. M. = Individual Method † C. M. = Class Method

were not sufficiently marked. The slight difference that does exist is, however, in favor of the individual method. This conclusion appears from a comparison of the results of the equated classes at the conclusion of each experimental period. At the end of the first eight weeks, Class 5A-1 (I.M.) surpassed Class 5A-2 (C.M.) by .2 words, while Class 6A-1 (I.M.) exceeded Class 6A-2 (C.M.) by 1.3 words. At the end of the second eight weeks, Class 5A-1 (C.M.) was .9 words better than Class 5A-2 (I.M.), while 6A-2 (I.M.) was .3 words ahead of Class 6A-1 (C.M.). In three out of four cases, the I.M. group proved somewhat more able. Further, the indication seems to be that the classes that started the experiment under the individual method consistently gained in ability throughout the whole period, whereas the other two classes fluctuated, one making its gain under the class method, the other under the individual method.

II. Ability to Spell Specific Words Taught During the Experiment.

A test of 50 words was given at the end of each half of the experiment, based on the words studied during the respective periods. Each test contained somewhat more than a third of the total number (144) of words, approximately every third word of the original list being included.

In Test A, given at the end of the eighth week, Class 5A-1 (I.M.) had a mean score of 33.2 words spelled correctly. Class 5A-2 (C.M.) had a score of 38.0, or 4.8 words better. In the sixth grade classes, the result of Class 6A-1 (I.M.) was 35.0 against a score of 36.4 made by Class 6A-2 (C.M.). (See Table IV.)

After changing procedures, Class 5A-1 (C.M.) with a score of 28.8 words correct in Test B, was 1.4 words below the achievement of Class 5A-2 (I.M.), with a score of 32.2. Class 6A-1 (C.M.), scoring 31.6 words, was 1.8 words better than Class 6A-2 (I.M.), which scored 29.8. (See Table IV.)

In three out of four possible cases, the classes under the class method achieved a greater efficiency in spelling the words undertaken under the given conditions.

A comparison of scores in Test A and Test B indicates that, while each class spelled correctly a lesser number of words in the second part of the experiment, the classes going from the class method into the individual method suffered a larger loss

TABLE IV

PRE-TEST AND FINAL TEST STATUS OF PUPILS' ABILITY TO SPELL THE WORDS COMPRISING TESTS A AND B

Word List	Test A		Test B		Test A		Test B	
Class	5A-1	5A-2	5A-1	5A-2	6A-1	6A-2	6A-1	6A-2
Method	I.M.	C.M.	C.M.	I.M.	I.M.	C.M.	C.M.	I.M.
Mean score, final test	33.2	38.0	28.8	32.2	35.0	36.4	31.6	29.8
Mean score, pre-test	20.6	18.7	15.7	14.7	14.9	14.3	17.9	15.8
Gain between pre-test and final test	12.6	19.3	13.1	17.5	20.1	22.1	13.7	14.0
Per cent gain	61	103	83	119	135	155	77	88

in ability to spell the words of Test B. Specifically, Class 5A-1 had 4.4 words less in Test B than in Test A; Class 5A-2 had 5.8 words less; Class 6A-1 had 3.4 words less; and Class 6A-2 had 6.6 words less (see Table IV). Irrespective of the relative difficulty of the words studied in each part of the experiment, the groups that started with the individual method seem to have had developed a somewhat better spelling sense than the other groups.

The real difference in ability to spell any group of words due to any special method of teaching can be measured accurately by comparing the pupils' ability to spell them before and after teaching. Such a comparison is shown in Table IV.

Table IV shows just how far each class went from its original ability to spell the given words to its final achievement. Interesting variations appear in the amounts of gain made. Classes 5A-2 and 6A-2 made more actual gain under both methods than classes 5A-1 and 6A-1, respectively. Comparing each class with its own record, it appears that classes 5A-2 and 6A-1 improved most under the individual method, while classes 5A-1 and 6A-2 made the greatest improvement under the class method. Apparently no definite trend can be pointed out in favor of either method, so far as concerns ability to learn spelling.

III. Retention.

In order to determine which method resulted in better retention of ability after a lapse of time, all classes were re-tested on the words of Test A one month after Test A was first given. In the meantime, these words had not been reviewed or otherwise handled by the pupils. Classes 5A-1 and 6A-1, both of which had used the individual method in the learning of these words, retained them far better than the corresponding classes using the class method, as shown in Table V. Unfortunately, there was insufficient time at the

TABLE V

RESULTS OF RETENTION TEST GIVEN ONE MONTH AFTER CONCLUSION OF FIRST EXPERIMENTAL PERIOD

(COMPARED WITH RESULTS OF ORIGINAL TEST A)

Class	5A-1	5A-2	6A-1	6A-2
Method	I.M.	C.M.	I.M.	C.M.
Class score, Test A	33.2	38.0	35.0	36.4
Class score, Retention Test	30.7	31.9	31.3	29.9
Loss	2.5	7.9	3.7	6.5

close of the experiment to give a similar retention test for Test B, so as to discover if the same result would have occurred in favor of the individual method.

CONCLUSIONS

The conclusions derivable from this experiment seem to be:

1. Under the stated conditions, the continued growth of pupils of grades 5 and 6 to spell words correctly, *i.e.*, without teaching, as measured by the Morrison-McCall Scale, seems to be very slightly favored by the use of the described individual method.

2. In learning to spell words definitely taken up by the pupils, this experiment establishes nothing in favor of either method. In spite of the fact that the pupils had been carefully equated, Class 5A-2 excelled under both methods in respect to actual gain made; Class 6A-2 likewise achieved greater success in actual gain under both methods (see Table IV).

3. In retention of spelling after a period of no practice, the individual method seems to be superior under the given conditions.

4. The two methods used were not sufficiently differentiated to make any decisive differences in ability to spell words. Nevertheless, on the whole, a slight advantage seemed to exist in favor of the individual method.

SUGGESTIONS

While the purpose of this experiment was simply to attempt to discover and weigh the relative merits of two teaching methods in producing spelling mastery, yet it was impossible to avoid noticing at least three features of special merit in the individual method which were not measured.

1. The more able pupils saved a considerable amount of time during the spelling periods, using the time gained in studying other lessons, in reading supplementary books, and in other valuable activities.

2. A sense of relative values was unconsciously fostered by the fact that each child learned to devote more time and effort on the words that were particularly troublesome to him.

3. In the inter-testing part of the spelling period, a valuable social activity was afforded in which the pupils had the opportunity of becoming interested in each other's progress and of working with one another in a mutually helpful way.

The lack of sufficient, properly timed drill was a defect that stood out in the individual method and probably accounted for the mediocre final results. Children in the elementary school need the guidance of their teacher in continuing drill until real mastery occurs. It is possible for the teacher to give considerable direction of drill even in the individual method of instruction. After the pupils have become habituated in using a good working method for studying spelling, the first five minutes of each period could be used to advantage for a vigorous drill in which all take part. The purpose of this general class drill should be to fixate some of the words which the biweekly tests have disclosed to be difficult for a large portion of the class. Words misspelled during this drill should be followed up immediately by individual listing and study in the study period. The continued use of such a brief drill would provide sufficient recall and repetition to prevent the effective operation of the Law of Disuse. Backed up by the usual self-competition or group-competitive devices to insure emotional incentives, the technique here outlined should prove adequate to secure economically the greatest possible individual efficiency in spelling, and also the best possible social contribution derivable from so mechanical a tool subject as spelling.

THE CLEARING HOUSE

BUILDING A TRAIN—AN EXPERIENCE IN SOCIAL STUDIES

An educator has stated, "It is precisely the *completeness* of the purposeful experience of children which makes it so educative."

The interest in trains among a group of twenty-two average first grade children in the Cleveland School of Fducation had its period of stimulation in engine books and train pictures, supplemented by their own personal experiences with train travel. When a large set of floor blocks is given to such a group, something is bound to happen!

The discussion of the train's route on the map, the interesting study of the engine's parts, the work of the men on the train, and the signals brought forth the readiness for an excursion to the station. This excursion to see a passenger train answered their questions, "How does an engine make steam?" "How does the sander work?" "How does an upper berth fold up?" "Where do they keep the food on the dining car?"

Then the young builders began their activities! With the floor blocks, the engine assumed its real proportion, complete with levers, gears, and lights. Next came the sleeping car with its accommodations for two children. The day coach and dining car were the next outgrowth in their building. Even en route, small travelers fashioned white fringed tablecloths and folded napkins for the tables. Nearby, nimble fingers molded clay dishes, which were painted in gay designs.

A lengthy conference took place to determine a possible schedule for the newly built train. From the map, a "Cleveland-New York" route proved to be the best by popular vote. This schedule was written in the waiting room near the ticket office. Every convenience of the travelers was anticipated. The clock in the waiting room, specially designed from one at home, told the travelers how long they should wait. It was an interesting fact that one child suggested, "That clock will tell them how long they have for lunch," whereupon, a restaurant was made! This involved the study of foods and food value, making change, table service and etiquette. Creative silhouettes marked every menu card, from which the children learned to read both name and price. Real food was sold in order to gain experience in actual buying.

The children made pocketbooks and bill folds in which to carry their paper money. Overnight travelers carried their handmade bags and cardboard suitcases. The engineer and fireman gave helpful talks about the working of the engine or its parts. The conductor and brakeman gave hints on politeness in traveling. The baggage and check room gave much help to passengers, and involved interesting experiences in reading and number.

The daily progress of the activities were kept in simple form as the children gave them, with the vocabulary carefully checked, and a degree of difficulty added as it became necessary. For example, the first day the chart read:

> We made a train.
> It is a passenger train.
> Passenger trains carry people.

Second day:

> We made a day coach.
> We made four seats.
> Four people can ride in the day coach.

Third day:

We made a sleeping car.
We made two beds.
Sylvia made a cushion.
She made it out of paper.
She sewed it with yarn.

The children read their chart record with great interest. The actual train itself led the children into the study of the signals. An added trip to the science department gave them new confidence in their work. They compared the different kinds of signals, used the terms "generator," "transformer," and "contact" with ease. The block signal system was most interesting, and although they had no way of building it, they understood its function. The switch track afforded a place for the "signal man" and "track walker" to ride their self-propelled hand car.

The rich, purposeful experience of these children contributed so much to their lives that it is extremely difficult to measure or tabulate the far-reaching results of work well done, carried through happy weeks and filled with joy of achievement. These results, however, are shown by our records of the group interest.

Number

Experiences with actual money in restaurant
Counting tickets, seats, and passengers
Selling and buying tickets
Measurement of wood for construction of restaurant tables
Experiences with time tables
Telling time
Making change

Reading

Group records, charts, signs, directions
Train books

Elementary Geography

Location of Buffalo, New York
Lake Erie and Cleveland on map

Art and Art Appreciation

Designing pillows and making them
Modeling and painting clay dishes for restaurant and dining car
Painting scenes to represent country-side view
Designs for pocketbooks and bags
Creative painting of foods for menu cards
Creative silhouettes of trains
Cutting tickets and receipts
Making train books

Elementary Science

Study of boiler, tank, and sander
Use of each
Steam—how it is made; evidences of steam found at home
Electric engines, transformer, third rail—generator
Switch tracks—arrangement, purpose, importance
Signals and lights—block system and importance

Music

Tonal work—using train calls "too-too"
Octave work—using brakeman's calls "all aboard"
Songs about engine
Creative songs about engine
Rhythmic activities—engine pulling up hill, piston rods going in and out

Writing

Writing names, figures
Printing signs, tickets, etc.

Social and Intellectual Outcomes

Joy in working with others
Recognition of individual ideas and abilities
Good habits in planning
Organization in group
Coöperation in building
Initiative in carrying out new suggestions
Skill in carrying out ideas

FLORINE HELEN HOWES,
City Normal School,
Rochester, N. Y.

THE WORK OF THE WINDS

A GEOGRAPHY PROJECT—GRADE III

Those who have visited Cape Cod know of the winds that make it their constant playground. Gentle winds, pleasant winds, howling winds, and fierce winds, all are a part of the Cape Cod child's environment. For that reason the geography work on winds has a great appeal.

The Cape Cod cottage was sawed, with jig-saw and father's borrowed saw, from an orange crate. The roof was made of oak tag and the little red chimney from a small box covered with red paper and marked out in bricks.

The garage, on which the weathervane was placed, was made of a cigar box with roof of oak tag, thumb-tacked on. The pole on which the weathervane was placed was one of the straws which the children use in their daily drinking of milk. The weathervane was a characteristically Cape Cod one—a paper swordfish. The entire house and garage were surrounded by a typical white picket fence made of white drawing paper. Small pieces of pitch pine stuck to the surface of the table with clay made the wind-blown trees.

The windmill was a cylindrical oatmeal box covered with paper, with four oak-tag arms.

The pond was of tin foil, and the small sailboat was made of bogus paper with a white sail.

The clothes poles were wooden skewers and a piece of string made the line. The children sewed some little clothes to hang on the line from odd scraps they brought from home.

The roadway was covered with sand and the surface of the table covered with seed babies collected during their nature study work on seed dispersal. Cut up green, yellow, and orange crepe paper represented the fallen leaves.

One child brought an airplane, which was tied above the table, and from another cord hung the parachute made by a little boy from a piece of white silk. To the end of the cord he had attached a little iron man.

Study preceding project:

I. Names of the winds.
   a. Stories, myths, and games introducing the winds—correlation with language, nature study, physical training, and reading.

II. Direction of winds.
   a. Ways in which wind has blown trees, etc., leading to thoughts of weather.
      1. Kinds of weather brought by different winds.
      2. Dramatization—reading and music correlation.
      3. Drawing construction of weathervane.
      4. Games by children playing they are weathervanes and finding directions in room and out-of-doors.

III. Work of the winds.
   a. Project worked up by children with this thought in mind.
      1. Mother Nature's winds blow the seed-babies away to find new homes.
      2. The winds move the weathervanes.
      3. The winds help the windmill grind flour.
      4. The winds move the sailboat.
      5. The parachute is carried safely down by the winds.
      6. The clothes on the line are dried by the winds.
      7. The waves of the ocean are raised very high by the winds.
      8. The flag flies in the winds.
      9. The dust of the road is blown by the winds.
      10. Mother Nature uses the winds for her house cleaning; the leaves are blown from the trees, old grasses and dried leaves are swept away.

The following poems were used for dramatization in connection with the thought of weather:

Four Little Winds

Four little winds met, they say,
To decide just how they would spend the day.
The West Wind said, "I know what I'll do,
I'll go for a sail on the ocean blue.
It is such fun to frolic and prance
And make the wavelets splash and dance."

The soft little South Wind jumped in glee,
"I know the ones who are waiting for me.
I'll help those boys their kites to fly;
And send them up to the blue, blue sky."

East Wind was troubled and rather sad,
For he had heard that the crops were bad.
All the farmers were hoping a shower
Would certainly reach them by tomorrow.
East Wind said, "There is work to be done,
So I must wait to have my fun.
I'll blow the heavy clouds together
And soon there'll be some rainy weather."

North Wind really is rough and strong
And many times his pranks are wrong.
Said he, "I know the fun for mine,
With all those clothes out on the line.
I'll twist and turn them inside out,
Then away I'll go with a merry shout.
I like to see folks scamper and run,
So I'll borrow their hats for a bit of fun."

The four little winds each went his way,
Working or playing all the day.
Some folks said, when the South Wind blew,
"I enjoy this wind so much, don't you?"
The sailors out on the ocean's breast
Exclaimed, "We like the West Wind best."
While the farmers were so happy and gay,
Because East Wind brought showers that day.
But naughty North Wind was scolded well,
And really I'm ashamed to tell
How very unhappy and cross one can be
When thoughtless pranks are played, you see.

The Sea Elf

Down by the sea one windy day,
When I was out on the shore to play,
I spied a naughty little elf
Astride a shell to dry herself.
What fun to play with an elf so small,
But lo, there was no elf at all!
That frisky wind had done his best,
And dropped her down on a wavelet's crest.
I saw her sail far out to sea,
Away from shore and shell and me.

Mabel J. Weekes,
Hyannis Training School,
Hyannis, Mass.

A READING PROJECT, WITH RESULTS

The 6A reading classes had completed the year's work. Each child had read twelve books (some many more) from our selected list, and each had kept a notebook in which he had written, for each book read, the title, the author, the setting, the leading characters, and a good reason for liking or disliking the book. There remained the problem of finding an interesting method of review.

Opportunely, the Principal came into the afternoon class with a literary map she had just received. The children were thrilled with it, and one boy exclaimed, "Why can't we make a map of our books!"

The room buzzed with enthusiasm. Many suggestions were given; but the pupils concluded that a class map would have to be of enormous size, and only a few could work on it at a time. That would never do. Finally some one suggested that each pupil make his own book map. This met with the approval of everyone. So they settled down to a map, or booklet of maps, showing by some simple illustration the setting of each book read during the year. They need not confine themselves to twelve books. (One girl had read thirty.)

The maps were made on oak tag, 12″ x 18″ when folded as a booklet. They were done in India ink. As perfection in map drawing was not the aim, the children were permitted to trace any maps they wished.

Reading, library, and geography periods

were used for this work, one teacher being in charge of these three subjects.

Perfect freedom was allowed. The room became a busy workshop, each child striving to have his map entirely original. How they loved the work! Often they would ask if they might come in after their lunch period or after school to work on their maps.

Some drew the continent of Europe because, they said, their stories were all laid in European countries. Two boys worked together on a world map (30″ x 36″). One boy sketched a large bookcase holding the books he had read. His printing was splendid, and the title and author of each book could be read distinctly. Many made booklets showing separate maps of the New England states, Alaska, Spain, France, and England; others drew sections of countries.

The New England states were illustrated with characters from Louisa Alcott's books; a boy and girl coasting for *Jack and Jill*, heads of seven boys and one girl for *Eight Cousins*. A map of Spain showed a crude sketch of the Alhambra. Lindy's plane over Paris or crossing the Atlantic represented *We*. A tiny cabin in the Swiss Alps showed where Heidi lived; a lighthouse on the New England coast, Captain January.

Many of the class printed the titles and authors on the backs of the maps or on a separate piece of oak tag. These were numbered to correspond to numbers found under the illustrations. Instead of printing, a few of those gifted in art repeated their illustrations on a border of book covers, in the manner of literary maps. Librarians, teachers, mothers, and children from other rooms who came in to look at the maps never failed to find the title of the book, even if they were unable to recognize the title from the illustration.

In the midst of the map-making one child suggested giving a play, using one of the books that everyone had read. Another suggested that each child write a play from his favorite book, the class to select the best one. After much lively discussion it was decided that each child imagine himself his favorite character and write a three-minute play.

In two classes of over thirty each, many clever plays were written. This work was done in the English period. Each child read his scene to the class and was criticized by the class. Care was taken that the character had a good reason for being on the stage, that he was supplied with sufficient action, and that he came on to the stage easily and made a graceful exit. After the sifting of plays, twenty-five were chosen for presentation.

The next thing to consider was how to combine the various scenes into one play. The plan that met with the approval of both classes was a court scene, with judge, jury, two witnesses (books), and a culprit who had been charged with scoffing at books. She was found guilty and sentenced to drink a potion, under the influence of which she was conducted through bookland, meeting the most interesting characters, asking questions, and gratifying her curiosity in many ways—sometimes listening to them as they gave their little act, pretending they did not see her. The play concluded with a court scene, where the culprit wakened and declared she would never again say books were uninteresting.

As the different characters appeared on the stage, two pages at one side held up a large book cover (24″ x 36″) with the title of the book, the author's name, and a large illustration done in India ink. As a rule the illustrations were enlarged from favorite ones on the maps the children had made.

Many songs and dances were used. *Katrinka* gave opportunity for a Russian dance; *Hans Brinker*, a Dutch dance; *Ranch of the Golden Flowers*, a Spanish dance; and *Red Caps and Lilies*, the Minuet. Songs were used in scenes from *Robin Hood, Lucky Sixpence, Master Skylark*, and *Rose in Bloom*. Just before the final court scene all the characters gathered on the stage and sang an original song written by a member of the class, and then fourteen of the characters danced the Carousal while the others looked on.

The setting was simple. A background of trees with an old stone wall in the foreground, painted by the children in the art class, was the only scenery.

The costuming was planned in the history class. A few simple costumes were made by the sewing class. Most of them were worked out by the children with the aid of the history teacher. They showed considerable ingenuity. Friday draped a bear skin about him; the judge in the court scene was attired in a surplice borrowed from the church; while Rose in Bloom wore her grandmother's wedding gown.

The play took an hour and fifteen minutes for presentation. The action was rapid, two pairs of pages being necessary to carry out the big book cover, but without hurry or crowding. In only three scenes were there more than two children on the stage besides the culprit and her guide.

On the day following the play the classes bubbled over. Theirs was the thrill of creation. They had conceived, planned, organized, and presented a play in which eight departments, besides the library and their homes, had coöperated and it had given pleasure and instruction to the entire school. What fun it had been! With one accord they declared they would never forget the books they had read this year. And not once had the word review been mentioned.

Following is the list of books from which the play was written:

Under the Lilacs	Alcott
Ranch of the Golden Flowers	Skinner
Lucky Sixpence	Knipe
Men of Iron	Pyle
Bob Thorpe, Skyfighter	Bishop
Little Women	Alcott
Little Cabbages	McGuckin
Captain January	Richards
Forest Runners	Altshelar
Red Caps and Lilies	Adams
Red Rose of Dunmore	Daniel
Martin Hyde	Masefield
Track's End	Carruth
American Patty	Thompson
Robinson Crusoe	DeFoe
Midsummer	Adams
Robin Hood	Pyle
Old Fashioned Girl	Alcott
Boy Knight of Rheims	Lownsbery
Hans Brinker	Dodge
Gauntlet of Dunmore	Daniel
Rose in Bloom	Alcott
Otto of the Silver Hand	Pyle
Master Skylark	Bennett
Katrinka	Haskell

HARRIET F. BARBER,
Fairfax School,
Cleveland Heights, Ohio.

AS REPORTED

A CONFERENCE ON RURAL SUPERVISION

Those interested in the improvement of supervisory practice in Texas met at Denton April 15 and 16. The following program was carried out:

1. With the Department of Rural Education as Our Guide
   Mary Nash, Ethel Morgan, and L. A. Woods
2. With the Rural Education Department in Our Higher Institutions Fixing Our Goals
   Dr. F. V. Garrison, Superintendent H. L. Goerner, and Mrs. Mamie Whitaker
3. Teachers' Meetings—A Round Table Discussion
   Leader: Miss Mary Shippe Sanders, Mrs. Jesse Carroll, Superintendent M. C. McClain, Miss Edgar Ellen Wilson, Superintendent I. G. Kennon, and Miss Helen Davis
4. Supervision of Instruction in Reading
   Leader: Miss Nellie Griffiths, Supervisor of Elementary Training School in N. T. S. T. C.
   My Best Unit of Work in Reading
   1. Miss Ila Maris
   2. Mr. J. L. Lovelace
   3. Mrs. Tannah P. Cross
   4. Mrs. C. S. Fothergill
   5. Miss Laura Gillett
5. Specific Problems in Rural Supervision—Round Table
   Leader: Miss Mattie Epperson
   1. Distribution of Time—Mrs. Charles Scott
   2. Rural Principals and Supervision—Mrs. John Ward
   3. Office Duties—Miss Nancy Moseley
   4. Other Problems—Miss Era Pierce
6. Improving Supervisory Practices and Standards. Summed up by:
   1. A College President—Dr. R. L. Marquis
   2. Department of Education — Miss Mary Shippe Sanders
   3. County Superintendent — Delbert Kyle
   4. Rural Supervisor—Leland Watkins
7. Business Session: (1) roll call; (2) discussion of time and place of meeting; (3) appointment of committees; (4) adjournment.

ISSUES IN CHARACTER EDUCATION

In connection with the exercises arranged on the occasion of the dedication of the new School of Education building of New York University, a discussion conference on character education was arranged by the Department of Elementary Education. Some sixty leaders in this field were brought together by invitation and took part in a three-hour program devoted to the consideration of the present status and principal problems of character education.

Five major problems were discussed. These were derived by means of a preliminary compilation of controversial issues. A discussion of the first problem, having to do with elements of character, was led by Dr. Henry Neumann of the Brooklyn Society for Ethical Culture and participated in by Professor Horne of New York University, Professors Rugg, Kilpatrick, and Hillegas of Teachers College, Professor Horn of the University of Iowa, Assistant Superintendent Allen of Providence, Rhode Island, and Superintendent Chapman of Elizabeth, New Jersey.

The second problem was that of method in character education and was assigned to Dr. Edwin Starbuck of the University of Iowa as leader, who was supported by Doctor Astor of the National Child Welfare Association, Miss Bamesberger of Toledo, Professor Courtis of the University of Michigan, Professor Germane of the Uni-

versity of Missouri, and Professor Zirbes of Ohio State University. The third aspect, that of curriculum construction, was in charge of Professor Charters of Ohio State University and presented by Miss Burke of Teachers College, Professor Collings of the University of Oklahoma, Professor Kyte of the University of Michigan, Professor Rasey and Miss Schall of Detroit Teachers College, Professor Reed of Teachers College, Columbia University, Miss Simpson of Rochester, and Superintendent Threlkeld of Denver.

Next came "Scientific Study of Testing," led by Professor Hartshorne of Yale and discussed by Dr. Coxe of New York State Education Department, Professor Shuttleworth of Yale, Professor Washburne of Syracuse University, and others. Finally, the matter of teacher training was taken up under the leadership of Professor Watson of Teachers College, who was followed by Professor Bonser, also of Teachers College, Professor Bennion of the University of Utah, Professor Zachry of New Jersey State Teachers College, and Dean Holmes of Harvard University.

The general trend of the conference was to the effect that a serious approach to the problems of character education is only now being made. One of the most important steps is that of attempting to devise scientific instruments for testing results in order that means and methods may be evaluated. There is evident need for the determination of situations that will call forth such responses as are desired in order that specific traits of character may be developed. This is difficult, however, because of the fact that we are still in ignorance as to what the desirable elements of character are and do not know how to set up a proper balance between the emotional and the intellectual. The so-called direct method of character education is now discredited. A systematic program, however, is still approved. While no separate curriculum in character education should be set up, it should clearly be recognized that, like health, character must be developed throughout the entire range of activities in the school program. Little progress is possible, however, until such time as teachers are widely trained not only in the broader cultural aspects of life but also in clinical methods and child guidance.

Those desiring to secure further information concerning the conference may address Professor F. C. Borgeson, School of Education, New York University.

ADULT EDUCATION AT THE MEETING OF THE AMERICAN LIBRARY ASSOCIATION

The fifty-second annual conference of the American Library Association will be held at the Biltmore Hotel, Los Angeles, June 23-28, with Andrew Keogh, librarian of Yale University and president of the A. L. A., presiding. The principal topic of the meeting will be adult education. This is to be treated with regard to two particular phases, namely, education of alumni and education by means of the radio. A report on the possibilities of radio education for adults will be made by Mr. Levering Tyson, field representative of the American Association for Adult Education, who is making a survey with the help of a subvention of the Carnegie Corporation. Among the other matters to be presented by committees and in general discussion will be children's work, state library service, the needs of people in sparsely settled areas, and the county library system as worked out in California.

A special feature of this year's meeting will be a conference of the A. L. A. at the Grand Canyon on June 21, at which it is expected that some five hundred librarians from all parts of the country will be present. At this conference the speeches will

have reference particularly to library work in the state of Arizona.

TRAINING IN THE WORK OF THE JUNIOR RED CROSS

It is reported that some 165,000 teachers in the United States are now using the project programs of the American Junior Red Cross as means of developing ideals of sympathy, sacrifice, and service. In order to give opportunity for training in this work, courses will be offered during the coming summer in four institutions, as follows: George Peabody College, University of California, Teachers College, Columbia University, and the College of Education, University of Wisconsin. These courses will continue for about three weeks and will comprise some eighteen lectures covering the origin and history of the Junior Red Cross, purpose, educational possibilities, and the application to the curriculum of the local school of health and other projects. Emphasis will be placed on the international development of the Junior Red Cross, including exchange of school work, compositions, portfolios, etc.

In addition to these courses in the colleges and universities, special demonstrations will be given in the summer sessions of some 160 of the normal schools as to how the activities of the Junior Red Cross can be related to regular class work in English, geography, and other studies.

STANDARDS FOR SUBSCRIPTION BOOKS

The American Library Association is undertaking a difficult but very valuable service to schools and homes by publishing a quarterly called *Subscription Books Bulletin*. In this publication the books and sets that are being presented by canvassers throughout the United States and Canada will be reviewed from time to time and critical standards set up. The readers will be able to learn whether a set is accurate, reliable, up-to-date, appropriately illustrated, and well indexed. Objections to books that are offered for sale will be stated clearly and concisely. Fifteen subscription sets were reviewed in the first issue. The canvassers whose books receive favorable mention will of course be happy; the others will no doubt make vigorous protest.

SUMMER SCHOOL IN RIO

In the summer of 1929 the Brazil Summer School was held in Rio de Janeiro as an experiment. Its success was sufficient to justify its continuance. Hence a session has been arranged for the summer of 1930. This will extend from July 10 to August 12.

Five principal courses will be offered: (1) The Historical Evolution of Brazil during the Nineteenth and Twentieth Centuries; (2) The Present Economic Status of Brazil; (3) The Sociological Development of the Brazilian People; (4) The Physical Geography of Brazil; and (5) Brazilian Literature. These will be conducted under the direction of the Brazilian Institute, which will provide for afternoon trips three times a week in connection with the class work.

A special round trip rate has been arranged by the Munson Steamship Line, so that persons wishing to take advantage of the summer school can make all arrangements in advance. For information write to the Institute of International Education, 2 West 45th Street, New York City.

VIENNA SUMMER SCHOOL

The fourth Vienna Summer School in connection with the University of Vienna will continue from July 1 to August 15 under the joint direction of the Institute of International Education and the Austro-American Institute of Education. The courses to be offered will be grouped under six heads, as follows: German Language and Literature; Education and Psychol-

ogy; Kindergarten Education and Social Welfare; Art; Music; and General Culture. Each course will consist of four class meetings, one round-table discussion, two conducted tours, and one special lecture each week. For further information apply to the Institute of International Education, 2 West 45th Street, New York City.

EASTERN CONFERENCES OF DIRECTORS OF EXTENSION EDUCATION

On March 27 and 28, the directors of extension education of the eastern states met in conference at the Pennsylvania Hotel, New York City. Morning and afternoon sessions were held on both days, together with a dinner meeting on Thursday and a luncheon meeting on Friday. The principal topics discussed were: "Adventures in Adult Education," "Teacher Education through Field Service," "Adult Education as Administered by the College or University," "The Summer Session," and "Current Administrative Problems." Professor Stephen C. Clement of State Teachers College, Buffalo, New York, chairman of the organization, presided. The speakers included Everett Dean Martin, Alvin Johnson, Lee Galloway, Ned H. Dearborn, John W. Withers, Harry A. Overstreet, Morse A. Cartwright, and many others active in the direction of extension and adult education.

THE READER'S GUIDE

A YEARBOOK OR TWO

The yearbook of the National Society for the Study of Education[1] is again far and away the largest of the present season's crop. Since this organization is the grandpapa, such a state of affairs is as it should be. The subject is arithmetic and the writers are numerous. Indeed, the enterprise, but for certain notable exceptions, is a sort of all hands around.

Part I presents "Some Aspects of Modern Thought on Arithmetic," and Part II, "Research in Arithmetic." There are some fourteen chapters, or separate essays, in all, not counting the critique by the reviewing committee at the end. The persons who will be most interested in these are professors in the universities like those who wrote them. Comparatively few workers in the field will have the persistence to wade through so much theoretical discussion. A digest of the main contentions in forty pages or less would be popular.

No one seems seriously to have raised the previous question, namely, just how much arithmetic can in fact be justified in the various grades of the elementary school. The question was raised for both language and number several years ago by the Wilson Committee on "Economy of Time." It has been satisfactorily answered for language but not for the sacred cow of arithmetic. It remains for some fearless committee, with nothing at stake, to answer that question. Meanwhile, the Twenty-ninth Yearbook will provide the university student with many a cud to chew.

The superintendents chose to "survey supervision."[2] A committee of ten, exactly half of whom are college professors of education, brought together some twelve chapters on the functions and duties of supervisory officers, the organization of supervision and planning of programs, evidences of efficiency in supervision, training for supervision, and the like. The concept of supervision proposed is that of "creative supervision," which is said to be both democratic and scientific and something more. Numerous examples of supervisory practice are given, largely from the available literature of the subject. There is considerable emphasis upon the supervisory duties peculiar to the school superintendent, though in the nature of the case these cover a wide range and in the smaller cities are well-nigh inclusive.

A general orientation of the superintendent was aimed at and has been very well accomplished. The treatment is commendably brief and the reader can get quickly to the meat of the cocoanut. Supervisors and principals should read the report so as to discover what the superintendents are thinking about.

The offering of the Department of Supervisors and Directors of Instruction is a report of a piece of coöperative investigation carried on with the aid of the members of the society.[3]

[1] The Twenty-ninth Yearbook of the National Society for the Study of Education: *Report of the Society's Committee on Arithmetic.* By F. B. Knight and others. Public School Publishing Co., 1930.

[2] *The Superintendent Surveys Supervision.* By A. S. Cook and others. Eighth Yearbook of the Department of Superintendence, National Education Association, 1930.

[3] *Current Problems of Supervisors.* Third Yearbook of the Department of Supervisors and Directors of Instruction, National Education Association. By J. Cayce Morrison and others. New York: Teachers College, Bureau of Publications, 1930.

The object was to make a cross section of current practice, determine the present status, and lay the foundation for a program of improvement. Supervisors were asked to keep a diary and to record problems of teachers which they had undertaken to help solve. A like request was made of teachers. Carefully prepared statements were secured from a number of supervisors who were evidently doing good work.

The results include a considerable body of fresh data, which have been carefully studied and interpreted. Supervisors will be able to check their own practices against those reported. The case studies will be especially valuable for this purpose. On the whole, supervisory practice is by no means on a high plane. The program of improvement which the Department is developing is evidently much needed.

The mathematics teachers devoted their yearbook to the teaching of geometry.[4] Fourteen writers treat fourteen separate but related topics. Their contributions taken together provide the teacher of geometry with a working handbook. The position of the writers is distinctly progressive. The editor, for example, recognizes the need of adjustment of the course in geometry in the high school and shows how it can be made.

As for the commercial teachers in the East, they called upon no less than fifty-five persons to come to their aid. The topic of their yearbook, the second, is *Curriculum Making in Business Education.*[5] The institutions concerned range from junior high school at one extreme to the graduate school of business at the other. The treatment is encyclopedic and evidently intended to clear the ground for more specific attack later.

The yearbook of the college teachers of education is in fact a study of college practice.[6] The main object was to set forth the situation as to the use of quantitative measures in institutions of higher learning. It is highly significant that the survey is concerned with the use of such measures in all departments of the university, not merely the division of education. The day of scientific study of higher education has at last dawned. The treatment is apparently exhaustive, so that the reader may learn with reasonable assurance and without undue expenditure of time just what the situation is. By implication there is also considerable guidance as to what it should be.

The yearbook of the International Institute[7] treats in part of recent developments in England, France, Germany, Palestine, and the United States and in part of vocational education in these same countries with the exception of Palestine. The account of the educational situation in the United States, by Dr. Ryan, carries forward the current history begun in the yearbook of 1924.

THE TEACHER IN THE JUNIOR HIGH SCHOOL

Among the first to establish a reputation in its field was the Washington Junior High School. From a long association

[4] *The Teaching of Geometry.* Fifth Yearbook of the National Council of Teachers of Mathematics. By W. D. Reeve and others. New York: Teachers College, Bureau of Publications, 1930.

[5] *Curriculum Making in Business Education.* Second Yearbook of the Eastern Commercial Teachers Association. By P. S. Lomax and others. Published by the Association.

[6] *Quantitative Measurement in Institutions of Higher Learning.* Eighteenth Yearbook of the National Society of College Teachers of Education. By Clifford Woody and others. University of Chicago Press, 1930.

[7] *Educational Yearbook of the International Institute.* Edited by I. L. Kandel. New York: Teachers College, Bureau of Publications, 1929.

with it, Miss Laura McGregor obtained a wealth of practical experience which she uses to good advantage in her book on the work of junior high school teachers.[8] This reflects wide and intensive study of this new administrative unit in general and views the teacher's task in a comprehensive way. This task is conceived as fourfold: director of learning, counselor in the home room, co-worker in the school community, and student in the educational world. It is set forth in relation to the junior high school as an institution, its program and its administration, and it is also considered in the light of its possible reward.

From this it will be seen that the book is much more than a treatise on the technique of classroom instruction. In fact it is such a presentation of the teacher's part in the total scheme as good perspective demands. At the same time it is admirably definite and concrete. The illustrations from actual practice are numerous and well chosen, and not less worthy of mention is the fact that they are almost all new. Method of direction of study receives emphasis. Four types of learning are recognized in this connection, which marks an advance upon the traditional conception that study is merely study. The failure to recognize expressional activity as involving study is, however, somewhat surprising. The work as a whole is exceedingly well organized, enlivened with photographs, and supplied with selective references.

ADOLESCENT PSYCHOLOGY

When you write on the psychology of children at any age level in such a way as to take nothing for granted, you are sure to produce a big volume. That is what Professor Brooks has done.[9] While not equaling the monumental work of G. Stanley Hall, his book is far and away more extensive than any other in its field. This is the result of two factors, an attempt to treat educational psychology in general while discussing adolescence and no very evident attempt to stay within the realm of scientifically ascertained fact. What proportion of the treatment is supposed to relate particularly to children of high school age is not apparent.

We learn from the author's preface that decision as to what material to include was based upon the frequency with which certain problems recurred among some three thousand questions handed in by students. The range of treatment may be inferred from the fact that there are some eighteen chapters. Four of these are devoted to personality and problems of adjustment. Such topics as introversion and extroversion come in for brief consideration, but the author takes the view of the scientific psychologists and not that of the analysts. Liberal use is made throughout of the results of scientific investigations and the references are numerous. There appears to be sufficient material in the book to provide a basic text and outline for a comprehensive course, though the chapter on learning would require considerable supplementation. There is, of course, no attempt to deal with the psychology of the various subjects of study.

SIGNIFICANT ARTICLES

STATE AGENCIES FOR PARENT EDUCATION

In view of the rising tide of interest in the education of parents, an article on the facilities ordinarily found in the state which may be utilized for this purpose by Miss Kendel, which appears in *School Life* for March, is timely. The author reviews present tendencies showing how widespread is the enrollment in study circles

[8] *The Junior High School Teacher.* By A. Laura McGregor. Doubleday, Doran, 1929.

[9] *The Psychology of Adolescence.* By Fowler D. Brooks. Houghton Mifflin Co., 1929.

and how numerous the courses are that are now being offered by colleges and universities for adult education and training of parents. Ohio stands out among the states of the Union because of the fact that in at least two of its institutions large departments for the training of parents and social workers have been established. The author believes that at present the greatest need is for a personnel capable of meeting the demands of the parent education program. Such a personnel should include organizers and promoters, amateur leaders, teachers, psychologists and psychiatrists, lecturers and field specialists, and leaders of demonstration centers.

TESTING AND TEACHING THE INDIVIDUAL

A useful survey of the problem of diagnostic testing and remedial teaching is presented in *School Executives Magazine* for April by Professor Metcalf of Ypsilanti, Michigan. He classifies the misfits found in schools under three heads: those in which the problem lies in the pupil himself and his attitudes; those that grow out of the nature of the curriculum; and those that grow out of the situation in which children of widely varying abilities are brought together. He would meet the problem of the misfit by careful individual guidance based upon analysis and diagnosis of each case. Definite remedial instruction must then be provided, with scientific adjustment of the subject matter used to the needs of each pupil. All this requires a high degree of training of a very special sort.

LEARNING SELF-DIRECTION

The program of character education as explained by Superintendent Beatty in *American Childhood* for April includes definite provision for training in self-direction. Opportunity is sought by the teacher for discussion with individuals in classes of problems of their relationships to the groups as wholes. Great care is taken to develop specific purposes in all that is done, particularly in the primary grades. The spirit of loyalty, particularly to the class and the group, is fostered. In short, the school undertakes to train the pupil to "take charge of his own life and guide it intelligently for the best interest of himself and the group of which he may be a part." Individuals who fail to make satisfactory adjustments to their social obligations are given special attention by the school psychologist. Diagnosis is based upon mental and physical tests, and pupils who for any reason have difficulty in their classes are sent to a special conference room in charge of a teacher trained in handling problems of discipline. The pupil is restored to his regular classes when it is clear that he is able to assume his responsibility. Conferences on constructive citizenship are held in the junior high school as a means of building up ideals.

A REMEDIAL CASE IN ARITHMETIC

Those who are interested in the newer methods of individual instruction will do well to read the series of reports of remedial cases in arithmetic that is being presented in the *Peabody Journal of Education*. In the March number is an account by Miss Trousdale of the study of a boy about ten years old in the fourth grade. His initial status was learned by means of testing, the Pittsburgh Arithmetic Scale, Form A, being used. The complete diagnosis involved the consideration of school records, opinions of teachers, observation of the pupil's behavior, informal tests, and the Buswell-John Diagnostic Chart. When it was found that the mental processes involved in fundamental operations were faulty, remedial instruction was given and the pupil tested for improvement. The results were highly satisfactory.

STUDIES IN ADOLESCENCE

Child Study for April is devoted to the general topic of adolescence. The concept itself is analyzed by Mr. Tiebout, who points out that the word refers to a process rather than to a period of time, and that it means, essentially, "growing up." Mr. Menninger brings out the serious problems involved in the young person's going away to college and being suddenly cut loose from home dependency and control. Mr. Robinson shows how the greatest good can be achieved for the greatest number with the help of the principles of mental hygiene. Dr. Gruenberg argues for developing in youth skill in getting along with people. The number closes with miscellaneous notes bringing out the progress that has been made in the study of child development since the publication in 1904 of Dr. G. Stanley Hall's monumental work on adolescence. Among other ideas emphasized is the new realization of the significance of the emotions in the life of youth.

STANDARDIZED TESTS IN NEW YORK SCHOOLS

Those who would like to know in general the status of the testing movement in New York City can secure the information in *School and Home* for January. This magazine is published by the Parents and Teachers Association of the Ethical Culture Schools in New York City. Miss Lazar explains the work of the Bureau of Reference, Research, and Statistics in providing information for the superintendent of schools and in coöperating with the district superintendents. Thousands of children are tested by means of such batteries as that composed of Gates' Silent Reading, Compass Survey in Arithmetic, Nifenecker Spelling, and Stanford Achievement-Language Usage.

Principals of schools, it appears, use standard tests for two chief purposes: classification of pupils into ability groups and measurement of achievement in school subjects. The group intelligence tests most commonly used are Terman, National Intelligence, Haggerty, Pintner-Cunningham, Detroit First Grade, and Detroit Kindergarten.

Teachers who wish to make special studies of pupil difficulties in such subjects as spelling, reading, and arithmetic are assisted by the Bureau of Research in doing this. In addition, psychological testing is employed to help in the organization of ungraded classes and in the conduct of psycho-educational clinic, as well as in the work of vocational counseling.

THE BATTLE OF SCIENCE AND PHILOSOPHY

Being moved by his experience at the meeting of the Department of Superintendence in Cleveland, Professor Finney of the University of Minnesota has undertaken to clarify the issue as to the character of the respective functions of philosophy on the one hand as opposed to science on the other. He calls attention to the fact that there are two sorts of reality—entities in time and space, and feelings in consciousness. The problems of the intellect fall, therefore, into two incommensurable categories, the one of phenomena and the other of values. Phenomena call for descriptions and explanations, values must be appraised through inner experience. A generalization, therefore, in the field of subjective impression is not a scientific conclusion, it is a majority preference. Of values as such, therefore, no science can treat, but only of the concomitant phenomena assumed to represent them. The author argues for a clear-cut distinction between philosophizing on the one hand and scientific research on the other, and holds that the conclusions reached by one process are not valid for data which can be properly treated only by the other. The complete article will be

found in *Educational Administration and Supervision* for March.

THE CASE FOR MATHEMATICS

Among the addresses given at the Atlantic City meeting of the Department of Superintendence was one on "Statistics and Modern Educational Thought," by Dr. Buckingham. This appears in *School and Society* for March 22. The author's contention is that quantitative ideas are tremendously important in modern life and that the uses of number have multiplied even within a generation. This is due in large measure to the rise of a new science —the science of statistics. As a result of it, for example, there has come into education the concept of individual differences, of scientific classification of children, of comparison of the effectiveness of methods of teaching. Statistical methods show how important even small differences may be. There is, however, the danger of misapplication of facts obtained by statistics through wrong interpretation, as, for example, that the number of times a fraction is actually used should determine whether it should or should not be taught in school.

SCHOOL MUSIC

Mr. Surette notes in *Progressive Education* for April that there has been a slow but steady advance in the field of school music. Technical training with syllables is no longer stressed, while the quality of music in the textbooks is greatly improved. What is needed for the future is continued emphasis upon the use of the best music, dispensing with technical training by means of syllables, and the securing of better training for those who must teach music in the schools. The writer thinks that the third would follow readily if the first two were accomplished. He would have good folk songs on the one hand and, on the other, the best of art songs by recognized composers as the material to be used. The music programs of the public schools of Winnetka, Illinois, and of the Beaver Country Day School in Massachusetts, he thinks, are examples of what may be done. In both cases excellent concerts are provided by trained performers on special occasions, and school music is used as a means of socializing the individual, the teacher, and the community.

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